

MEDEX

MID-LEVEL
HEALTH WORKER
TRAINING MODULES

Instructor's
Manual

GENERAL
CLINICAL:

Infectious Diseases
Other Common
Problems
Trauma and
Emergency





THE MEDEX PRIMARY HEALTH CARE SERIES

After completion of extensive field trials in Micronesia and in primary health care programs in Lesotho, Guyana, Pakistan, and Thailand, the methods and materials of the MEDEX technology have been published as The MEDEX Primary Health Care Series. The Series provides a systematic, practical, adaptable format for management and training in new or existing primary health care programs at all levels.

The 35-volume Series is organized into three major categories of Management Systems Development

Materials, Mid-Level Health Worker Training Materials, and Community Health Worker Training Materials. The Series is appropriately balanced between promotive, preventive, and curative needs in primary health care.

The methods and materials of the MEDEX technology are suitable for national scale programs as well as smaller projects, and can be used in whole or in part as circumstances demand. One of the greatest strengths of the MEDEX technology is its flexibility and sensitivity to local conditions.

VOL.

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 Gastrointestinal
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- 16** Student Text **17** Instructor's Manual
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- 18, 19** Student Text **20** Instructor's Manual
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 Other Common Problems

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- 25** Student Text **26** Instructor's Manual
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- 27** Student Text and Instructor's Manual
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- 29** Patient Care Procedures

- 30** Health Center Operations

- 31** Community Health

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The Community Health Worker Training Materials are designed for training literate and non-literate community health workers to carry out specific tasks. The teaching approach emphasizes dialogue between trainer and trainee. Other methods employed include role-play demonstrations, stories, and extensive use of visual aids. The materials are geared to practical skill development through maximum interaction with the trainer. The workbooks emphasize promotive and preventive skills, but include selected basic curative skills as well.

The workbooks can be used to train new community health workers or to provide continuing education for existing community health workers. To prepare mid-level health workers to train community health workers, these workbooks are used along with the community health modules.

- 32** Introduction to Training
 Clean Water and Clean Community
 Prevention and Care of Diarrhea
33 Healthy Pregnancy
 Feeding and Caring for Children
34 Some Common Health Problems
 Tuberculosis and Leprosy
 First Aid
35 Community Learning Materials:
 Health Problems in the Community
 Caring for Your Child
 Caring for Your Sick Child
 Clean Home and Clean Community
 Illustrations for Training Community Health Workers

To order books or to obtain further information on The MEDEX Primary Health Care Series, write: The MEDEX Group, University of Hawaii, 1833 Kalakaua Ave., #700, Honolulu, Hawaii 96815-1561, U.S.A.

Common Problems
INFECTIOUS DISEASES

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The MEDEX Primary Health Care Series

COMMUNITY HEALTH CELL

Common Problems
INFECTIOUS
DISEASES

Instructor's Manual

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SCHEDULE

Common Problems – INFECTIOUS DISEASES

DAY 1	DAY 2	DAY 3	DAY 4
<p>Introduction to Infectious Diseases module</p> <p>Teaching Plan 1: Recognizing the Signs of Infectious Diseases</p>	<p>Teaching Plan 3: Interviewing and Examining Patients with Infectious Diseases; Clinical Practice</p>	<p>Teaching Plan 6: Diagnosing Infectious Diseases Commonly Spread by Animals or Insects</p> <p>Rabies</p> <p>Malaria</p> <p>Louse-borne typhus</p>	<p>Teaching Plan 8: Diagnosing Infectious Diseases Commonly Spread from Person to Person</p> <p>Meningitis</p> <p>Diphtheria</p> <p>Leprosy</p>
<p>Teaching Plan 2: Taking a Medical History of the Patient with an Infectious Disease</p>	<p>Teaching Plan 4: Diagnosing Infectious Diseases Commonly Spread Through the Soil or Water</p> <p>Typhoid fever</p> <p>Tetanus in children and adults</p> <p>Teaching Plan 5: Treating and Caring for Patients with Infectious Diseases Commonly Spread Through the Soil or Water</p>	<p>Teaching Plan 7: Treating and Caring for Patients with Infectious Diseases Commonly Spread by Animals or Insects</p>	<p>Teaching Plan 9: Treating and Caring for Patients with Infectious Diseases Commonly Spread from Person to Person</p>

DAY 5	DAY 6		
Teaching Plan 10: Sharing Health Messages about Leprosy	Teaching Plan 11: Assessing and Caring for Patients with Infectious Diseases; Clinical Practice Group A - Patient care Group B - Presenting health messages Group C - Interviewing and examining patients		
Teaching Plan 11: Assessing and Caring for Patients with Infectious Diseases; Clinical Practice Group A - Interviewing and examining patients Group B - Patient care Group C - Presenting health messages	Teaching Plan 11: Assessing and Caring for Patients with Infectious Diseases; Clinical Practice Group A - Presenting health messages Group B - Interviewing and examining patients Group C - Patient care		
	Posttest		

Skill development: two weeks - Teaching Plan 11

Clinical rotation: one month - Teaching Plan 12

Community phase: three months - Teaching Plan 13

Teaching Plan 1

Recognizing the Signs of Infectious Diseases

OBJECTIVES	<ol style="list-style-type: none"><li data-bbox="399 662 1297 1742">1. Describe these signs of infectious diseases:<ul style="list-style-type: none"><li data-bbox="475 720 1297 766">High, constant fever<li data-bbox="475 766 1297 813">Up and down pattern of fever<li data-bbox="475 813 1297 859">Step ladder pattern of fever<li data-bbox="475 859 1297 906">Low pulse rate and high fever<li data-bbox="475 906 1297 952">Convulsions<li data-bbox="475 952 1297 999">Neck stiffness<li data-bbox="475 999 1297 1045">Leg response when neck is bent<li data-bbox="475 1045 1297 1092">Tight or bulging anterior fontanelle<li data-bbox="475 1092 1297 1138">Rigid smile<li data-bbox="475 1138 1297 1185">Throat spasms<li data-bbox="475 1185 1297 1266">Bright red throat with gray membrane covering the tonsils and pharynx<li data-bbox="475 1266 1297 1347">Unusually large, swollen lymph glands on both sides of the neck<li data-bbox="475 1347 1297 1394">Enlarged and tender spleen<li data-bbox="475 1394 1297 1440">Light colored skin patch with loss of sensation<li data-bbox="475 1440 1297 1487">Loss of sensation in the hands and feet<li data-bbox="475 1487 1297 1533">Enlarged and tender nerves<li data-bbox="475 1533 1297 1580">Flat, red rash on the abdomen<li data-bbox="475 1580 1297 1626">Very red face<li data-bbox="475 1626 1297 1673">Bright red, inflamed conjunctivae<li data-bbox="475 1673 1297 1719">Jaundice<li data-bbox="475 1719 1297 1766">Abdominal swelling and tenderness<li data-bbox="399 1766 1297 1859">2. Recognize the signs of infectious diseases when you see or feel them in a patient.
METHODS	Self-instruction, discussion, practice with patients if they are available
MATERIALS	Student Text - Unit 1, fever and pulse charts of patients with infectious diseases

PREPARATION Complete your analysis of pretest results. Assign each student to a small working group of three or four persons. Each group should include students with high pretest scores and students with low pretest scores.

Identify patients with signs of infectious diseases.

Tell students to review the anatomy and physiology of the skin, skull, eyes, throat, neck, abdomen, and nervous system. Tell students to review the Medical History and Physical Examination modules.

Also, tell students to read the Student Text for Unit 1 and to answer the review questions.

TIME: 2 hrs 40 min

LEARNING ACTIVITIES	
1. Introduce and explain the Task Analysis Table.	15 min
2. Discuss with students the signs of infectious diseases and their relation to the anatomy and physiology of the skin, skull, eyes, throat, neck, abdomen, and nervous system.	1 hr
3. Students work in small groups to recognize and identify signs of infectious diseases in patients. If possible, bring patients into the classroom. Give students the opportunity to observe and examine these patients and to review their temperature and pulse charts.	1 hr
4. Discuss with students any questions about their work with the patients.	15 min
5. Evaluate what the students have learned with an informal posttest.	10 min

ANSWERS TO REVIEW QUESTIONS

Assessing a Patient with an Infectious Disease

1. Comparing a patient's pulse rate to the rate of increase in his temperature can sometimes help you diagnose his disease. Usually a patient's pulse rate increases eighteen beats per minute for each 1°C increase in temperature. Answer these questions about a patient's pulse rate and temperature.

- a. An adult patient has a normal pulse rate of seventy beats per minute. He now has a fever. His temperature is 40°C . What would you expect to be the increase in the patient's pulse rate per minute?

40° C patient's temperature
-37° C normal temperature
 3° C degrees of fever

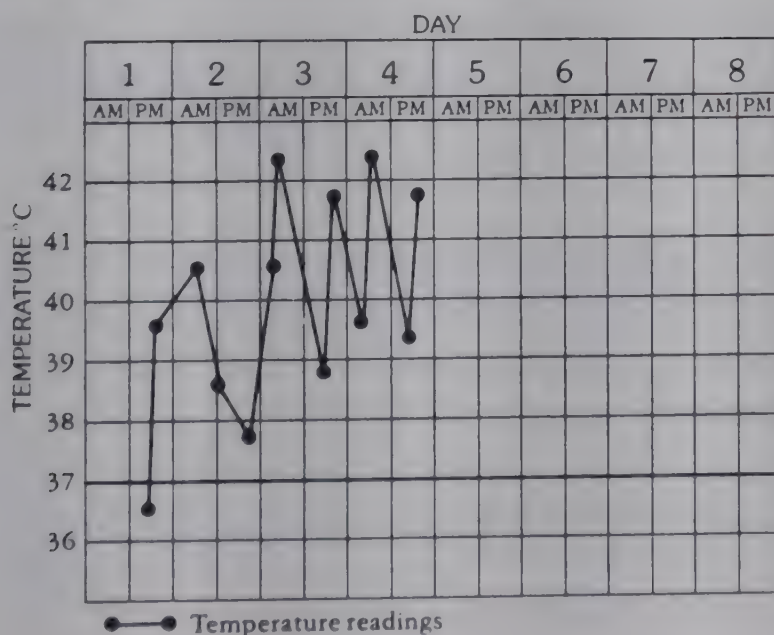
18 pulse rate increase per 1°C
x3°C degree of fever

54 increase in pulse rate per minute

- b. Suppose the patient had a temperature of 40° C and a pulse rate of only eighty-eight beats per minute. What does this mean? What infectious disease might this be associated with?

The patient's pulse rate is thirty-six beats per minute slower than it should be for the 3° C increase in temperature. The patient may have typhoid fever.

2. The pattern of fever is an important sign. Study the graph below. Answer the questions following the graph.



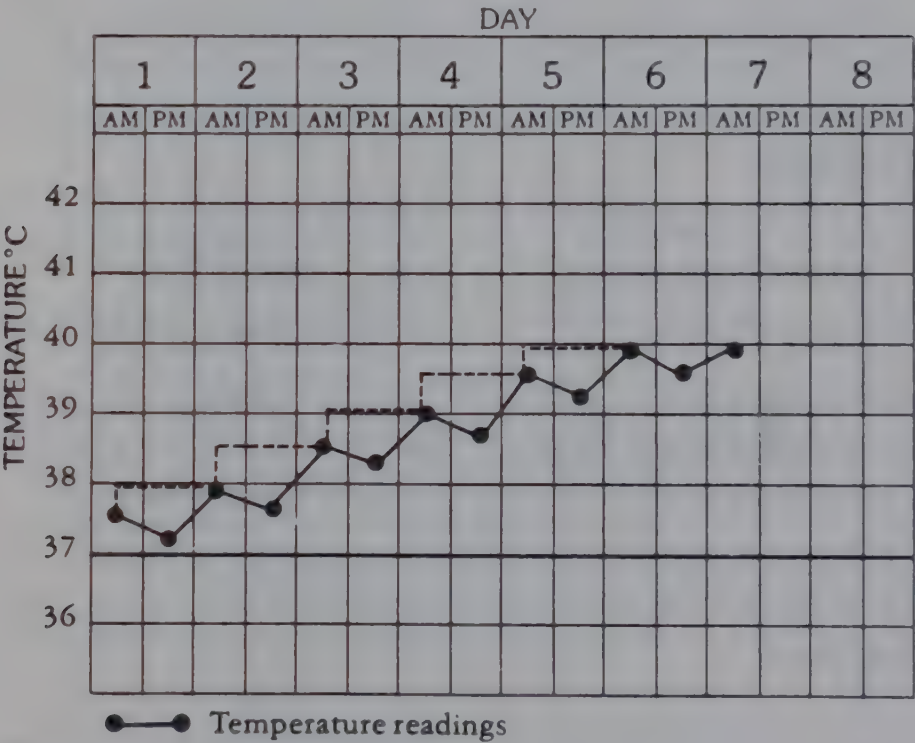
a. What is the pattern of this fever?

An up and down pattern of fever. The patient has high temperature peaks. Then his temperature drops before rising again sharply a few hours later.

b. What common infectious disease has this pattern of fever?

Malaria

3. The pattern of fever can be different with different infectious diseases. Study the graph below. Answer the questions following the graph.



a. What is the pattern of this fever?

A step ladder pattern of fever

b. What common infectious disease has this pattern of fever?

Typhoid fever

4. A convulsion is a sign of an abnormal condition. Explain what you might see if a patient was having a convulsion.

Repeated, involuntary contractions and relaxations of many of the large muscles of the body at once

5. A convulsion is a very serious sign. A convulsion is a medical emergency. A convulsion is caused by a problem in the part of the brain that controls the large muscles.

6. Fever is a common cause of convulsions in infants. If an infant's temperature rises above 39° C, he may have a convulsion.
7. Sometimes a patient bends his legs and draws them up towards his chest. You will notice this sign when you test a patient for neck stiffness.
8. An anterior fontanelle of a sick infant which feels tight or bulging when palpated is a sign of increased spinal fluid pressure.
9. The toxin produced by tetanus bacteria can cause a patient to have a convulsion. What other sign does the tetanus poison cause?
Tightening of the face and jaw muscles causing a rigid smile
10. Spasms of the throat muscles can be caused by an infectious disease which attacks the brain. What behaviors would make you suspect that the patient is having painful throat spasms?
A fear of water and an inability to swallow his own saliva
11. With any throat infection, you will see the signs of a red throat and swollen lymph glands in the neck. With one infectious disease the throat is very red and the lymph glands on both sides of the neck are swollen to an unusually large size. Another sign which is important to note is a gray membrane which forms over the tonsils and pharynx.
12. The spleen is an organ of the circulatory system. One function of the spleen is to remove infected red blood cells from the circulatory system. When infected red blood cells enter the spleen, the spleen will feel enlarged and tender when palpated.
13. The spleen is a very delicate organ. You must palpate the spleen carefully or you can injure or even rupture the spleen.
14. Leprosy is an infectious disease which attacks the nerves. What are three important signs of leprosy?
 - a. *Light colored skin patches with loss of sensation*
 - b. *Loss of sensation in the hands and feet*
 - c. *Enlarged and tender nerves*

15. A patient's face is bright red. The conjunctivae of his eyes are also very red. What other sign of an abnormal condition would you look for and where?

A flat, red rash on the abdomen which may have spread to the inside of the arms, across the trunk, and onto the chest, back, and legs

16. Why is it important to find out a patient's immunization history?

Immunizations can help prevent certain infectious diseases such as diphtheria, tetanus, or tuberculosis which can cause meningitis. A patient who has not been immunized may be suffering from one of these diseases.

17. Why is it important to ask a patient to tell you about his fever?

Some infectious diseases, such as malaria and typhoid fever, have particular patterns of fever. Therefore, a pattern of fever, if present, can help in diagnosis.

18. A patient has suffered a soft tissue injury. What else would you want to know?

Was the patient bitten by a dog or other animal? Did he suffer a puncture wound or other soft tissue injury by a dirty object? Did the patient feel any pain if he suffered a hand or foot injury?

19. A mother brings in a sick newborn. What would you ask about the mother's labor and delivery?

Did she have any difficulty during her labor and delivery? Did her membranes rupture more than twelve hours before the infant was born?

20. Why is it important to find out if anyone else in a patient's family is sick?

Asking questions about family members might help you diagnose an infectious disease. Asking questions is also a way to find out if other people in a patient's family are sick and need to be examined.

21. What would you want to find out about where a patient lives and works?

Find out where the patient gets his drinking water. Find out if he lives or works in an area where mosquitoes are common. Ask if he has had a problem with mosquitoes or lice.

Briefly describe the signs of abnormal conditions which you would look for in these physical examination procedures.

22. Examine the patient's general appearance.

- a. Note the patient's level of consciousness.

Convulsion

Drowsiness or sleepiness

Slow response to what is going on around him

- b. Note the expression on the patient's face.

Rigid smile

23. Take and record the patient's vital signs.

- a. Note the patient's temperature.

High, constant fever

Up and down pattern of fever

Step ladder pattern of fever

- b. Note the patient's pulse rate.

A pulse rate which is twenty to forty beats per minute slower than you would expect for the degree of temperature

24. Examine the patient's skin, head, eyes, throat, and neck.

- a. Examine the patient's skin.

Jaundice

Very red face

Light colored skin patch with loss of sensation

Flat, red rash on the abdomen, spreading to the inside of the arms, across the trunk, and onto the chest, back, or legs

- b. Examine the anterior fontanelle of an infant.

Tight or bulging anterior fontanelle

- c. Note the color of the conjunctivae of the eyes.

Yellow, jaundiced conjunctivae

Bright red, inflamed conjunctivae

- d. Note the color of the throat, tonsils, and pharynx.

A bright red throat with a gray membrane covering the tonsils and pharynx
Moving the membrane often causes bleeding

- e. Note the patient's ability to swallow.

Throat spasms demonstrated by a fear of water and an inability to swallow his own saliva

- f. Note the patient's ability to bend his neck.

Neck stiffness and pain when his head is bent towards his chest. Bending the head down causes a leg response. The patient bends his legs and pulls them towards his chest.

- g. Inspect and palpate the lymph glands in the neck.

Unusually large, swollen lymph glands on both sides of the neck

25. Examine the abdomen.

- a. Palpate the abdomen.

General swelling and tenderness

- b. Palpate the spleen.

An enlarged and tender spleen

26. Examine the nervous system.

- a. Test the hands and feet for sensation.

Loss of sensation in the hands and feet

- b. Palpate the nerves which lie near the surface of the skin in the neck and on the arms and legs.

Enlarged and tender nerves

Teaching Plan 2

Taking a Medical History of the Patient with an Infectious Disease

OBJECTIVES	<ol style="list-style-type: none">1. Demonstrate medical history and physical examination procedures for a patient with an infectious disease.2. Record your findings on official forms.
METHODS	Self-instruction, discussion, practice interview
MATERIALS	Student Text - Unit 1; case studies 61, 62, and 63; record forms
PREPARATION	<p>Remind students to read the case studies in the Student Text.</p> <p>Identify infectious disease patients who are willing to come to your classroom.</p>

TIME: 2 hrs 30 min

LEARNING ACTIVITIES

1. Demonstrate how to interview and examine a patient with an infectious disease.	30 min
2. Students practice taking medical histories from other members of their groups, using case studies 61, 62, and 63. After each interview, students evaluate one another. If possible, bring patients into the classroom for students to interview and examine.	1 hr
3. Discuss with students the importance of the medical history and its use in diagnosing diseases. Use review questions 16 to 21 from Unit 1 as a starting point for the discussion.	30 min

	TIME
4. The students summarize what they learned during the session and comment on how they will use this knowledge in their work.	30 min

Teaching Plan 3

Interviewing and Examining Patients with Infectious Diseases; Clinical Practice

OBJECTIVES	<ol style="list-style-type: none">1. Interview a patient to obtain information about his infectious disease.2. Examine a patient with an infectious disease.3. Record the findings of an interview and examination on official forms.
METHODS	Clinical demonstration, clinical practice
MATERIALS	Medical history and physical examination skill checklists, record forms
PREPARATION	Arrange for students to spend two hours in a hospital ward or outpatient clinic with suitable supervision.

TIME: 3 hrs

LEARNING ACTIVITIES

1. Demonstrate how to interview and examine a patient with an infectious disease.	15 min
2. Students interview and examine patients with infectious diseases, using the medical history and physical examination skill checklists as a guide.	1 hr 45 min
3. Students present their findings to the class. Comment on these findings and discuss with students the session's activities.	1 hr

Teaching Plan 4

Diagnosing Infectious Diseases Commonly Spread Through the Soil or Water

OBJECTIVES	<ol style="list-style-type: none">1. Describe the signs and symptoms of Typhoid fever Tetanus in children and adults2. Demonstrate how to interview and examine patients and diagnose typhoid fever and tetanus.
METHODS	Self-instruction, discussion, small group work, instructor presentation, role-play
MATERIALS	Student Text- Unit 2, medical history skill checklist
PREPARATION	Prepare a brief presentation on the signs and symptoms of typhoid fever and tetanus. Also, tell the students to read Unit 2 in the Student Text and to answer the review questions.

TIME: 1 hr 30 min

LEARNING ACTIVITIES

1. Present and lead a discussion on the signs and symptoms of typhoid fever and tetanus.	15 min
2. Divide the class into groups of three. Assign each group a different disease. Tell each group to: Choose two members to role-play the patient and the health worker. Create a presenting complaint and medical history for the patient, using information from the text.	5 min
3. Groups create patient roles.	10 min

	TIME
4. The health worker from one group interviews the patient from another group and diagnoses the disease. The other students watch this interaction, using the medical history skill checklist as a guide to correct performance.	15 min
5. The group members switch roles and carry out another interview. Again, the other students watch this interaction.	15 min
6. The full training group meets. Each small group discusses its findings and the interview process.	15 min
7. The students summarize what they learned during the session and comment on how they will use this knowledge in their work.	10 min
8. Remind the students to review the Student Text information on patient care for typhoid fever and tetanus and to begin thinking about appropriate patient and family education approaches for these diseases.	5 min

ANSWERS TO REVIEW QUESTIONS

Infectious Diseases Commonly Spread Through the Soil or Water

1. TRUE (T) or FALSE (F)

- T Typhoid fever is a bacterial infection of the intestines that affects the entire body.
- T Typhoid fever bacteria are spread through drinking water which has been contaminated by the stool of an infected person.
- T An infected person can also spread typhoid fever bacteria to other people by handling the food that others will eat.
- F Usually during the first week a person is infected with typhoid, he has a very high fever.
- F A person with typhoid fever has a pulse rate that increases eighteen beats per minute for each 1°C increase in temperature.

2. What antibiotic would you give a suspected typhoid fever patient before transferring him to the hospital?

Chloramphenicol

3. Use your Formulary to answer the next questions. Suppose your patient is a pregnant woman at term. You suspect that she has typhoid fever. Would you give her the drug that you recommended above?

 Yes X No

4. Explain your answer.

Chloramphenicol can have toxic effects on an unborn child.

5. TRUE (T) or FALSE (F)

- T Tetanus is caused by bacteria which are found in the soil and in animal dung.

- T Tetanus bacteria can get into the body when a dirty object punctures or cuts a person's skin or when a wound, cut, or ulcer of the skin touches contaminated soil.
- T As tetanus bacteria grow, they produce a toxin.
- F Tetanus travels through the respiratory system.
- T Tetanus attacks the central nervous system.

6. What is the most important step a person can take to be protected against tetanus?

DPT immunizations for children

7. If a patient has tetanus, you would notice that making noises near the patient, touching him, or moving him would cause what reaction?

Sudden muscle spasms or convulsions

8. Tell how you would care for a patient with tetanus or suspected tetanus.

- a. Tetanus is suspected early in the course of the disease.

Give penicillin, clean the wound or ulcer, and transfer the patient to the hospital.

- b. Tetanus has developed and the patient is having convulsions.

Give the patient amobarbital for the convulsions. Give the patient valium to sedate him and to prevent muscle spasms. Transfer the patient to the hospital.

9. A mother brings in her seven-year-old daughter with an infected wound. The daughter cannot remember when she hurt herself. She says it was a few days ago. With questioning, the little girl says she feels a funny tingling sensation around the wound. The child has no history of DPT immunization. Her vital signs are normal. The wound is on the outer part of the girl's right lower leg. The area around the wound is swollen, red, and warm. You note some muscle spasms around the wound. The little girl reports this has been happening for one day. The lymph glands in her right groin are swollen and painful. The rest of the physical examination is normal. Other than a secondary infection of the wound to the leg, what problem do you suspect?

Tetanus

Teaching Plan 5

Treating and Caring for Patients with Infectious Diseases Commonly Spread Through the Soil or Water

OBJECTIVES	<ol style="list-style-type: none">1. Describe how to treat and care for patients with typhoid fever and tetanus.2. Demonstrate how to teach people about the prevention of typhoid fever and tetanus.
METHODS	Self-instruction, instructor demonstration, small group work, student presentations, discussion
MATERIALS	Student Text - Unit 2, case study 61, Diagnostic and Patient Care Guides, Formulary
PREPARATION	Prepare case study 61.

TIME: 1 hr 30 min

LEARNING ACTIVITIES

- | | |
|---|--------|
| 1. Divide the class into role-play groups. | 5 min |
| 2. Groups identify the infectious disease in the case study and outline the treatment and care procedures for this disease, using the Diagnostic and Patient Care Guides. | 10 min |
| 3. Groups present their case study findings and the treatment and care procedures to the class. Comment with students on each group presentation. | 20 min |
| 4. Each group develops a community education message on the prevention of typhoid fever or tetanus. | 20 min |
| 5. Students deliver their community education messages on the prevention of typhoid fever or tetanus. | 25 min |

TIME

6. Discuss with students the session's activities. Ask the students to summarize what they learned and how it may be helpful in their work. Remind students to read the next unit and to answer the review questions.

10 min

Case Study 61

Name of Patient	Williams, Elma
Sex	Female
Date of Birth	21 July 1947
Date of Visit	4 December 1979
Vital Signs:	Temperature 39.5° C Pulse 78 Respirations 22 Blood Pressure 110/70 Weight 62 kg
Presenting Complaint and Medical History:	<p>The patient has had a fever for ten days. The patient's fever began slowly and has been getting higher every day. Aspirin relieves the fever for a while. She has had some loose bowel movements for the last two days. She also complains of a severe headache. She has had no appetite since the fever started. She has some abdominal pain.</p> <p>Past medical history: She has had no serious illness in the past. Other than aspirin, she has been on no drugs or medications.</p> <p>Family history: She has two living children. She has never had a miscarriage. She reports that her menstrual periods are normal.</p>
Physical Examination:	<p>The woman looks ill. The mucous membranes inside her mouth are pink. Her tongue is coated. Her tonsils are not inflamed or swollen. No neck stiffness, goiter, or distended neck veins are noted. Her breath sounds are normal, with no heart murmurs. Her abdomen is slightly swollen. Her bowel sounds are active. She complains of tenderness and shows slight guarding upon palpation of her abdomen. No cervical tenderness or discharge are noted during the pelvic examination.</p>

Diagnosis:	Typhoid fever
Patient Care:	Prepare the patient for transfer to the hospital Start the patient on chloramphenicol.
Diagnostic Points:	<ol style="list-style-type: none">1. High fever for more than one week2. High fever but slow pulse3. Severe headache4. Diarrhea5. Swollen and tender abdomen6. Abdominal pain

Teaching Plan 6

Diagnosing Infectious Diseases Commonly Spread by Animals or Insects

OBJECTIVES	<ol style="list-style-type: none">1. Describe the signs and symptoms of Rabies Malaria Louse-borne typhus2. Demonstrate how to interview and examine patients and diagnose rabies, malaria, and louse-borne typhus.
METHODS	Self-instruction, discussion, small group work, instructor presentation, role-play
MATERIALS	Student Text - Unit 3, medical history skill checklist
PREPARATION	Prepare a brief presentation on the signs and symptoms of rabies, malaria, and louse-borne typhus. Also, tell the students to read Unit 3 in the Student Text and to answer the review questions.

TIME: 3 hrs

LEARNING ACTIVITIES	
<ol style="list-style-type: none">1. Present and lead a discussion on the signs and symptoms of rabies, malaria, and louse-borne typhus.	30 min
<ol style="list-style-type: none">2. Divide the class into groups of three. Assign each group a different disease. Tell each group to: Choose two members to role-play the patient and the health worker.	10 min

	TIME
Create a presenting complaint and medical history for the patient, using information from the text.	
3. Groups create patient roles.	30 min
4. The health worker from one group interviews the patient from another group and diagnoses the disease. The other students watch this interaction, using the medical history skill checklist as a guide to correct performance.	30 min
5. The group members switch roles and carry out another interview. Again, the other students watch this interaction.	30 min
6. The full training group meets. Each small group discusses its findings and the interview process.	30 min
7. The students summarize what they learned during the session and comment on how they will use this knowledge in their work.	15 min
8. Remind the students to review the Student Text information on patient care for rabies, malaria, and louse-borne typhus and to begin thinking about appropriate patient and family education approaches for these diseases.	5 min

ANSWERS TO REVIEW QUESTIONS

Infectious Diseases Commonly Spread by Animals or Insects

1. What early presenting complaint would make you suspect rabies?

The earliest complaint will be that the patient was bitten by a dog or other animal known to carry rabies.

2. What is the first thing you would do for a patient with this presenting complaint?

Treat the bite. Clean the wound and remove any dead tissue. Do not suture the wound closed. Leave it open. Put a dry sterile dressing on the wound. Change the dressing daily.

3. Under what circumstances would you transfer a patient to the hospital for rabies treatment?

If the patient was bitten:

- a. *By any animal that escaped, was killed, or was known to be sick*
- b. *By any animal that got sick and/or died during the ten days of being watched*
- c. *By any animal that attacked the patient's face or neck*

4. All forms of malaria are spread by infected mosquitoes.

5. You have diagnosed a twenty-three-year-old man as having malaria. He is not vomiting. He is slightly dehydrated. His temperature is 41.5°C.

Use your Patient Care Guides to answer these questions.

- a. What drug would you give this patient? What dosage would you give? How often should he take the drug?

Give the patient 1,000 mg (four tabs) of oral chloroquine phosphate immediately. Follow with 500 mg (two tabs) six hours later. Then give 500 mg (two tabs) once a day for the next two days.

- b. How would you treat the patient's dehydration?
Encourage him to drink as much fluid as possible.
 - c. How would you bring down the patient's high fever?
Sponge his body with cool water until his temperature drops to 39° C.
 - d. What drug would you give to prevent the patient from getting another malaria attack? How often should he take the drug?
Give the patient 500 mg (two tabs) of oral chloroquine phosphate weekly.
 - e. What kind of specimen from the patient would you send to the hospital?
Thick and thin blood smears for diagnosis of malaria
6. What three steps can help prevent and control malaria?
 - a. *Killing mosquitoes and destroying their breeding areas. Spray with an approved insecticide. Drain or fill standing water breeding areas. Trim weeds and grass near houses and the edges of the community.*
 - b. *Taking oral chloroquine phosphate weekly for self-protection*
 - c. *Early diagnosis and care of malaria patients*
 7. What three points would you make when explaining how to prevent louse-borne typhus?
 - a. *Kill the lice with an approved insecticide or by bathing with gamma benzene hexachloride.*
 - b. *Immunize against typhus*
 - c. *Practice good health habits.*
 8. A father brings in his fifteen-year-old son and tells you that two weeks ago the boy was bitten by a dog. The dog ran away. In the last couple of days the boy has become restless. He has had a fever, headache, and nausea. The boy is easily upset which is not his normal behavior. The boy will not let you put a thermometer into his mouth. His temperature, taken in his arm pit, is 38.5° C. His respiration is a little labored but is within normal limits. His pulse is ninety-seven beats per minute. His blood pressure is within normal limits. He gets very upset when you ask him if he wants a drink of water. You notice some saliva in the corners of his mouth, and you

suspect he is having throat spasms. What do you suspect the problem is?

Rabies

9. A forty-year-old woman had a bad flu one week ago. Now she has a severe headache, a high fever, and chills. She has noticed a rash on her abdomen. Her husband is also starting to have the flu. They have no children. She has a temperature of 40°C and a rapid pulse of 124. Her blood pressure is 130/90. Her respirations are 30. She looks ill with a red face and bright red conjunctivae. A flat, red rash on her abdomen has spread to her chest, back, and the inside of her arms. What do you suspect the problem is?

Typhus

10. How would you treat this patient and her husband?

Prepare the patient for referral. Start her on oral tetracycline and aspirin for the fever and headache. Examine her husband. If he has typhus, treat him in the same way.

Teaching Plan 7

Treating and Caring for Patients with Infectious Diseases Commonly Spread by Animals or Insects

OBJECTIVES	<ol style="list-style-type: none">1. Describe how to treat and care for patients with rabies, malaria, and louse-borne typhus.2. Demonstrate how to teach people about the prevention of rabies, malaria, and louse-borne typhus.3. Prepare thin and thick blood smears for diagnosis of malaria.
METHODS	Self-instruction, instructor demonstration, small group work, student presentations, discussion
MATERIALS	Student Text- Unit 3, case study 62, materials and skill checklist for preparing blood smears for the diagnosis of malaria, Diagnostic and Patient Care Guides, Formulary, Patient Care Procedures
PREPARATION	Prepare case study 62. Prepare materials for demonstrating the preparation of blood smears for the diagnosis of malaria.

TIME: 2 hrs

LEARNING ACTIVITIES

1. Divide the class into role-play groups.	5 min
2. Groups identify the infectious disease in the case study and outline the treatment and care procedures for this disease, using the Diagnostic and Patient Care Guides.	20 min
3. Groups present their case study findings and the treatment and care procedures to the class. Comment with students on each group presentation.	15 min

	TIME
4. Each group develops a community education message on the prevention of rabies, malaria, or louse-borne typhus.	25 min
5. Students deliver their community education messages on the prevention of rabies, malaria, or louse-borne typhus.	25 min
6. Discuss and demonstrate procedures for preparing thin and thick blood smears for diagnosis of malaria. If patients are available, students practice the procedures for preparing thin and thick blood smears. Evaluate with group members each student's performance, following the skill checklist for these procedures. If patients are not available, students practice blood smear procedures during their clinical practice activities scheduled later and under appropriate supervision.	20 min
7. Discuss with students the session's activities. Ask students to summarize what they learned and how it may be helpful in their work. Remind students to read the next unit and to answer the review questions.	10 min

Case Study 62

Name of Patient: Clayton, Tom
Sex: Male
Date of Birth: 1 January 1946
Date of Visit: 14 October 1979
Vital Signs: Temperature 41°C
Pulse 142
Respirations 30
Blood Pressure 120/75
Weight 75 kg

Presenting Complaint and Medical History: The patient complains of being very hot with fever and then cold with shaking chills. The attacks seem to be getting worse, and he now has a bad headache. He says that this has been happening for three days. The hot and cold periods repeat almost every day. He reports that he was in the forest two weeks earlier to cut wood and was bitten several times by mosquitoes. He feels a little better when his fever seems to drop and he sweats. But nothing else seems to make the problem any better. He is not sure if anything makes it worse.

Past medical history: This is his first visit to this health center. He has never felt like he does now. He had hepatitis six years ago. He has noticed that his eyes are a little yellow, but the way he feels now is not like the way he felt when he had hepatitis. He is not taking any chloroquine phosphate.

Family history: There is no history of serious illness in the family. No one else in the family is presently ill.

Physical Examination: The patient is sweaty. His conjunctivae are jaundiced. His neck veins are flat. His breath sounds are normal and he has no edema. His heart sounds are

normal with no murmurs. His spleen is enlarged and tender when palpated.

Diagnosis: Malaria

Patient Care:

1. Give oral chloroquine phosphate.
2. Give fluids.
3. Sponge the patient to bring down his temperature.
4. Discuss ways to prevent malaria in the future.
5. Prepare a blood smear and send it to the laboratory.

Diagnostic Points:

1. Temperature of 40°C and pulse of 142
2. Repeated hot and cold attacks with shaking chills
3. Mosquito bites
4. Not taking chloroquine phosphate
5. Jaundiced conjunctivae
6. Enlarged and tender spleen

Teaching Plan 8

Diagnosing Infectious Diseases Commonly Spread from Person to Person

OBJECTIVES	<ol style="list-style-type: none">1. Describe the signs and symptoms of: Meningitis Diphtheria Leprosy2. Demonstrate how to interview and examine patients and diagnose meningitis, diphtheria, and leprosy.	
METHODS	Self-instruction, discussion, small group work, instructor presentation, role-play	
MATERIALS	Student Text - Unit 4, medical history skill checklist, slides on leprosy, projector, screen	
PREPARATION	<p>Prepare a brief presentation on the signs and symptoms of meningitis, diphtheria, and leprosy.</p> <p>Check projection equipment and preview slides on leprosy.</p> <p>Also, tell the students to read Unit 4 in the Student Text and to answer the review questions.</p>	
		TIME: 3 hrs
LEARNING ACTIVITIES		
1. Present and lead a discussion on the signs and symptoms of meningitis, diphtheria, and leprosy.		25 min
2. Present slides on leprosy.		30 min
3. Divide the class into groups of three. Assign each group a different disease. Tell each group to:		5 min

		TIME
Choose two members to role-play the patient and the health worker. Create a presenting complaint and medical history for the patient, using information from the text.		
4. Groups create patient roles.		25 min
5. The health worker from one group interviews the patient from another group and diagnoses the disease. The other students watch this interaction, using the medical history skill checklist as a guide to correct performance.		25 min
6. The group members switch roles and carry out another interview. Again, the other students watch this interaction.		25 min
7. The full training group meets. Each small group discusses its findings and the interview process.		25 min
8. The students summarize what they learned during the session and comment on how they will use this knowledge in their work.		15 min
9. Remind the students to review the Student Text information on patient care for meningitis, diphtheria, and leprosy and begin thinking about appropriate patient and family education approaches for these diseases.		5 min

Slide Narration for Leprosy

This child has leprosy. Notice the light colored skin lesions on the back of the arm. This is an early sign of leprosy.



The child also has light colored lesions on the buttocks.



This child has a light colored lesion on the elbow. He has no feeling over the area of the lesion. This loss of sensation is a sign of leprosy.



This slide shows the damage which leprosy can cause at a young age. This child has a common and usually serious form of leprosy. The lesions are clearly defined, light colored, and flat. Nerve damage is extensive. Proper long-term treatment can clear up the skin lesions. But the nerve damage cannot be corrected.



It is very important to diagnose leprosy correctly at the beginning. A wrong diagnosis may lead to serious problems for the patient. If you are in doubt, refer the patient to someone with more experience, even if this means a long journey. Here is a simple fungus infection which was thought to be leprosy.



This slide shows an enlarged nerve in the lower leg and foot. Normally this nerve is not visible and can hardly be felt. You need years of experience to give an opinion on minor degrees of nerve enlargement. But the severe enlargement shown here can be easily diagnosed as leprosy, especially in areas where leprosy is common. Very few conditions cause nerve enlargement. When nerve enlargement is seen with loss of sensation, the diagnosis of leprosy is usually correct.



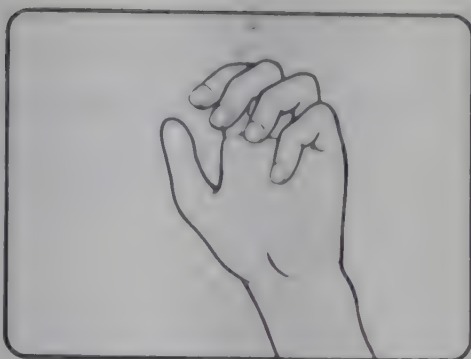
Leprosy skin patches may begin to heal in the center, leaving a narrow rough edge. This shows that the body is resisting the disease.



In other cases, healing in the center is not clear, leaving a wider rough edge. This shows less body resistance.



The hands of this leprosy patient have become like claws. Leprosy patients with damaged nerves cannot feel pain in their hands and feet. A woman may burn her hands while cooking and not notice it. A man may hurt himself in the fields and not feel it. People neglect wounds because the wounds do not hurt. Secondary infections occur and are also neglected. A secondary infection can invade the deeper tissues. The infection destroys a patient's bones and causes his fingers or toes to shorten or fall off.



This slide shows the severe damage leprosy can cause. This patient's hands were not protected against injury. His fingers are destroyed, and his hands have become almost useless.



ANSWERS TO REVIEW QUESTIONS

Infectious Diseases Commonly Spread from Person to Person

1. TRUE (T) or FALSE (F)

- T Tuberculosis can cause meningitis.
- T Children can be immunized against tuberculosis with BCG.
- T The same bacteria and viruses which cause common ear, nose, and throat infections, and boils on the face, head, and neck can cause meningitis.
- F A mother with an infant with meningitis often reports that the child is irritable and unusually sleepy, but is sucking well.

2. What physical examination finding would make you strongly suspect meningitis in an infant?

A tight or bulging anterior fontanelle

3. Neck stiffness is a sign of meningitis in children and adults. Another sign occurs when the neck is bent forward. The legs bend and draw up towards the chest.

4. You have diagnosed an adult patient as having meningitis. He has a temperature of 40.5° C. He is conscious and is not vomiting. Using your Patient Care Guides as a reference, tell how you would care for this patient.

Prepare the patient for transfer to the hospital. Give him 5 million units of penicillin IV, if he is not allergic. Put 15 million units of penicillin in a 500 ml bottle of sterile saline and continue the IV on the way to the hospital. Give 600 mg of aspirin for the fever. Sponge the patient to bring down the fever. Stop sponging when his temperature drops to 39° C.

5. TRUE (T) or FALSE (F)

- F Diphtheria is not easily spread from person to person.
- T Children are protected against diphtheria after they have received the four-shot DPT immunization series.

- T Children who have completed the four-shot DPT series are further protected against diphtheria if they receive a DT injection before starting school.
- T The early symptoms of diphtheria are like an upper respiratory infection.
- F A bright red membrane covering the tonsils and pharynx means the patient has diphtheria.
- T The membrane of diphtheria can block the patient's airway.

6. TRUE (T) or FALSE (F)

- F Most people exposed to a person with leprosy get the disease.
- T A person who is being treated for leprosy cannot spread the disease to others as long as he stays on his medication.
- T Community members need to be educated about leprosy.
- F Patients being treated for leprosy with dapsone never have reactions to this drug.

7. List two early presenting complaints of people with leprosy.

- a. *A light colored skin patch*
- b. *A painless injury to the hand, finger, foot, or toe*

8. Depending upon the type of leprosy a patient has, what are three physical examination signs of leprosy?

- a. *A light colored skin patch with loss of sensation when touched lightly*
- b. *Loss of sensation in the hands and feet*
- c. *Enlarged and tender nerves near the surface of the skin*

9. A mother brings her two-week-old infant to you with the complaint that he has a fever and had a convulsion. She reports that the baby first became irritable and then unusually sleepy. He has not been sucking well. You find out that the mother's membranes ruptured fifteen hours before the baby was born.

The infant has a fever of 40° C. He seems unusually sleepy. The baby is suffering from malnutrition and dehydration. Because of the early signs of dehydration, you examined the anterior fontanelle to see if it was sunken. You found the skin over the fontanelle to be

tight. What do you suspect the problem is in addition to malnutrition and dehydration?

Meningitis

10. A mother brings her four-year-old child to you with the complaint that the child has an upper respiratory infection, fever, and swollen neck. The child says her throat hurts a lot. You note from the patient's record that she has received only one DPT injection. That was three months after she was born. The child has received no other immunizations. The mother reports that her other three children are not sick. The patient has a 40.3°C fever. Her pulse rate is increased. The child is normal weight for age. She looks very sick, and the lymph glands on both sides of her neck are swollen to an unusually large size. Her throat is very red. A gray membrane covers her tonsils.

- a. What do you suspect the child's problem to be?

Diphtheria

- b. What are you going to do about the other three children in the family?

Bring them in for examination. Find out their DPT immunization history. If they have not been immunized against diphtheria, start them on DPT immunization.

- c. How could this problem have been prevented?

With the four-shot DPT immunization series

- d. Give the schedule for answer c above, using your Formulary as a reference.

First DPT immunization at three months. This was done. Second DPT immunization at five months. This was not done. Third DPT immunization at seven months. This was not done. Fourth DPT immunization at eighteen months. This was not done.

11. A thirty-nine-year-old woman has some mild abdominal discomfort and diarrhea. You palpate her abdomen and notice a light colored skin patch. She reports that this appeared a couple of weeks ago, but she thought it was just ringworm and did not have time to come to see you about it. Is there anything you would want to do concerning this light colored skin patch on her abdomen?

Check the skin patch for loss of sensation to light touch.

Teaching Plan 9

Treating and Caring for Patients with Infectious Diseases Commonly Spread from Person to Person

OBJECTIVES	<ol style="list-style-type: none">1. Describe how to treat and care for patients with meningitis, diphtheria, and leprosy.2. Demonstrate how to teach people about the prevention of meningitis, diphtheria, and leprosy.
METHODS	Self-instruction, instructor demonstration, small group work, student presentations, discussion
MATERIALS	Student Text - Unit 4, case studies 63 and 64, Diagnostic and Patient Care Guides, Formulary
PREPARATION	Prepare case studies 63 and 64.

TIME: 3 hrs

LEARNING ACTIVITIES

1. Divide the class into role-play groups. Assign one of the two case studies to each group.	5 min
2. Groups identify the infectious disease in their case study and outline the treatment and care procedures for this disease, using the Diagnostic and Patient Care Guides.	30 min
3. Groups present their case study findings and the treatment and care procedures to the class. Comment with students on each group presentation.	45 min
4. Each group develops a community education message on the prevention of meningitis, diphtheria, or leprosy.	45 min

	TIME
5. Students deliver their community education messages on the prevention of meningitis, diphtheria, or leprosy.	45 min
6. Discuss with students the session's activities. Ask students to summarize what they learned and how it may be helpful in their work. Remind students to read the next unit and to answer the review questions.	10 min

Case Study 63

Name of Patient: Singh, Linda

Sex: Female

Date of Birth: 30 July 1972

Date of Visit: 20 October 1979

Vital Signs: Temperature 38.2° C
 Pulse 96
 Respirations 20
 Weight 32 kg

Presenting Complaint and Medical History: The patient has had a constant headache for two days. The headache hurts all over her head and is getting worse. She reports nothing significant which makes the headache better or worse. She also has a fever. She vomited once today. She has no history of trauma to the head. She has been very irritable.

Past medical history: She had a running ear three months ago and was given an injection at another rural health center. She has received DPT, BCG, and polio immunizations.

Family history: She reports no important history of illness. No one else in her family is sick.

Physical Examination: The patient looks sick. She is very irritable. Her eyes, ears, mouth, and throat are normal. Her neck is stiff. She complains of pain when her chin is bent towards her chest. When her head is bent, she bends and draws her legs up towards her chest. Her breath sounds are normal. Her heart sounds are normal with no murmurs. Her abdomen is soft with no complaint of pain upon palpation. A BCG scar is visible.

Diagnosis: Meningitis

- Patient Care:
1. Arrange for transportation of the patient to the hospital.
 2. Give ampicillin.
 3. Sponge the patient to reduce the fever.
 4. Give aspirin for the fever.
 5. Explain to the parents the seriousness of this problem.
- Diagnostic Points:
1. Headache
 2. Fever
 3. Running ear for three months
 4. Neck stiffness
 5. Leg response when head is bent forward

Case Study 64

- Name of Patient: Persaud, Jean
- Sex: Female
- Date of Birth: 10 May 1937
- Date of Visit: 3 December 1979
- Vital Signs:
- | | |
|----------------|---------|
| Temperature | 37.0° C |
| Pulse | 74 |
| Respirations | 16 |
| Blood pressure | 140/90 |
| Weight | 69 kg |
- Presenting Complaint and Medical History: The patient has had a skin lesion on her face for six months. She says the lesion is slowly increasing in size. It is not painful and does not cause any irritation.

Past medical history: She had typhoid fever twenty years ago. She has had eight live births and had a tubectomy after her eighth pregnancy.

Physical
Examination:

Her mucous membranes are pink, but her tongue is slightly coated. Other than the skin lesion on the face, her head and neck are normal. Her chest is clear. Her heart sounds are normal. No edema is noted. She has a scar on her abdomen from her tubectomy.

A light colored, round flat lesion near her right nostril extends slightly onto her cheek and to the edge of her upper lip. The edge of the lesion is sharp and slightly raised. The surface of the patch is dry and slightly wrinkled. A similar lesion is on the outside surface of her right forearm. Neither lesion has sensation to light touch.

Diagnosis:

Leprosy

Patient Care:

Refer for confirmation of diagnosis.

Diagnostic
Points:

Light colored flat skin lesions, with sharp edges and loss of sensation to light touch

Teaching Plan 10

Sharing Health Messages about Leprosy

OBJECTIVES

1. Develop a health message about one of these topics on caring for the patient with leprosy:
 - The psychological effect on the patient who learns he has leprosy
 - The social and economic effects on the patient with leprosy
 - The importance of the patient staying on his leprosy medication
 - How a patient can recognize a reaction to his medication and what he can do
 - How a leprosy patient can care for and protect his hands from injury
 - How a leprosy patient can care for and protect his feet from injury
 - How to exercise the joints of affected arms and legs
 - How to check family members for early signs of leprosy
 - The attitudes of community members towards the person with leprosy
2. Write the health message in simple terms that patients, family members, and other people will understand.
3. Describe how the health worker could use the message in his daily activities.
4. Share health messages with patients, family members, and other community members.

METHODS	Self-instruction, discussion, instructor presentation, role-play, student presentations
MATERIALS	Student Text - Unit 5
PREPARATION	Remind students to review Unit 5. Locate patients with leprosy or health workers who work with leprosy patients who are willing to serve as resource people to the students. Prepare a health message on leprosy to deliver in front of the students with a leprosy patient or in a role-play.

TIME: 3 hrs 15 min

LEARNING ACTIVITIES

- | | |
|--|--------|
| 1. Discuss with students the use of health messages with patients with leprosy, family members, and other community members. | 10 min |
| 2. With a leprosy patient or in a role-play, demonstrate a health message on leprosy. Discuss the presentation with the class. Students comment on the use of health messages in their work. | 10 min |
| 3. Three students role-play the discussion by the health worker, the leprosy patient, and the patient's wife about foot care. Discuss the role-play with the class. Include comments from leprosy patients and leprosy workers if present. | 15 min |
| 4. Divide the class into five groups. If leprosy patients and leprosy workers are available, assign them to each group as resource people. Tell each group to: | 45 min |
| a. Select a health message topic about leprosy
b. Write the health message in simple language that patients, family members, or other community members would understand | |

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- | | TIME |
|--|-------------|
| c. Prepare and practice a presentation in which each group member has a role | |
| 5. Groups give presentations. Briefly discuss each presentation. | 1 hr 45 min |
| 6. The students summarize what they learned during the session and comment on how they will use health messages in their work. Remind the students to review the student guide for Unit 6. | 10 min |

Teaching Plan 11

Assessing and Caring for Patients with Infectious Diseases; Skill Development

OBJECTIVES	<ol style="list-style-type: none">1. Interview and examine patients with infectious diseases.2. Recognize and record the signs and symptoms of infectious diseases.3. Advise patients and family members about the prevention and home care of infectious diseases.4. Present health messages about the prevention of infectious diseases and about community attitudes towards the patient with leprosy.
METHODS	Supervised clinical practice
MATERIALS	Skill checklists for medical history, physical examination, preparing blood smears for diagnosis of malaria, and presenting health messages; evaluation records; Diagnostic and Patient Care Guides; Formulary
PREPARATION	<p>Arrange for student supervision during these skill development activities:</p> <p>One and one-half days of skill development in a hospital ward or outpatient clinic during the week of classroom instruction</p> <p>Two weeks of skill development in a hospital ward or outpatient clinic coordinated with skill practice opportunities for other clinical modules</p>

LEARNING ACTIVITIES

- 1. Give student groups one and one-half days to practice:

1.5 days

Interviewing, examining, and providing care to patients with infectious diseases

Delivering health messages about the prevention and home care of infectious diseases

- 2. Students practice interviewing, examining, providing care, and delivering health messages in a clinic or hospital ward for two weeks. The two weeks of skill development for other clinical modules coincide with skill development practice for the Infectious Diseases module. Students should complete their Level I requirements for these modules during this time.

12 days

Teaching Plan 12

Caring for Patients with Infectious Diseases; Clinical Rotation

- OBJECTIVES**
1. Diagnose all of the infectious diseases described in this module with the help of the Diagnostic Guides.
 2. Properly record information about medical history, physical examination, and patient care.
 3. Provide patient care, using the treatments described in this module and in the Patient Care Guides.
 4. Prepare a blood smear for the diagnosis of malaria.
 5. Counsel patients about the home care and prevention of infectious diseases.

METHODS Supervised clinical practice

MATERIALS Skill checklists for medical history, physical examination, preparing blood smears for diagnosis of malaria, and presenting health messages; Diagnostic and Patient Care Guides, Patient Care Procedures, Formulary

PREPARATION See Student Guide - Unit 7, for entry level skills and knowledge.

Since this activity will occur with other clinical rotations, you will probably be placing two or three students in the clinic during any given month. Arrange for supervision during this activity.

TIME: 1 month

LEARNING ACTIVITIES

1. Students take medical histories and perform physical examinations.

- | | |
|--|--|
| <div>2. Students diagnose infectious diseases.</div> <div>3. Students present health messages to individual patients, groups of patients, or family members of patients.</div> <div>4. Each student is evaluated at least twice on these activities.</div> | |
|--|--|

Teaching Plan 13

Helping a Community to Prevent and Care for Infectious Diseases; Community Phase

OBJECTIVES	<ol style="list-style-type: none">1. Provide clinical services to patients with infectious diseases.2. Identify infectious diseases and plan a program to prevent them from occurring and spreading, with special emphasis on immunization.3. Advise the community about its role in preventing infectious diseases.4. Identify other members of the health team who can assist in the prevention of infectious diseases.
METHODS	Practice providing patient care, assessing the community, and training community health workers
MATERIALS	Log book, reference materials
PREPARATION	See Student Guide - Unit 8, for entry level skills and knowledge. See the Community Phase Manual for details on organization and supervision of community practice.

TIME: 3 months

LEARNING ACTIVITIES	
<ol style="list-style-type: none">1. Students provide clinical services to patients with infectious diseases.2. Students assess the number of infectious diseases found in the community. They assess the number of people, especially children, who have or have not been immunized against infectious	

diseases. They identify any local customs that increase or decrease the occurrence of infectious diseases in the community. They record their findings in a written report.

3. Students plan activities that will help the community reduce the occurrence of infectious diseases.
4. Students hold meetings with community members to discuss attitudes towards people with leprosy. Students help teach the community that leprosy patients who are on medication are not contagious, and that such people need the support of the community.
5. Students begin training a community health worker to care for some infectious diseases, to assist in an immunization program, and to work in community education.
6. Evaluate student performance in the community.

OTHER COMMON PROBLEMS

The MEDEX Primary Health Care Series

OTHER COMMON PROBLEMS

Instructor's Manual

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John A. Burns School of Medicine
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SCHEDULE OTHER COMMON PROBLEMS

DAY 1	DAY 2	DAY 3
<p>Introduction to Other Common Problems module</p> <p>Teaching Plan 1: Recognizing the Signs of Low Back and Joint Problems</p> <p>Teaching Plan 2: Taking a Medical History of the Patient with a Low Back or Joint Problem</p>	<p>Teaching Plan 4: Diagnosing Low Back and Joint Problems</p> <p>Teaching Plan 5: Treating and Caring for Patients with Low Back and Joint Problems</p>	<p>Teaching Plan 9: Diagnosing Thyroid Problems</p> <p>Simple goiter Hypothyroidism Hyperthyroidism</p> <p>Teaching Plan 10: Treating and Caring for Patients with Thyroid Problems</p> <p>Teaching Plan 11: Recognizing the Signs of Other Medical Problems</p>
<p>Teaching Plan 3: Interviewing and Examining Patients with Low Back or Joint Problems; Clinical Practice</p> <p>Teaching Plan 4: Diagnosing Low Back and Joint Problems</p> <p>Low back pain caused by muscle strain or sprain of the sacroiliac joint Low back pain caused by disk disease Osteoarthritis Rheumatoid arthritis Septic arthritis</p>	<p>Teaching Plan 6: Recognizing the Signs of Thyroid Problems</p> <p>Teaching Plan 7: Taking a Medical History of the Patient with a Thyroid Problem</p> <p>Teaching Plan 8: Interviewing and Examining Patients with Thyroid Problems; Clinical Practice</p>	<p>Teaching Plan 12: Taking a Medical History of the Patient with Other Medical Problems</p> <p>Teaching Plan 13: Interviewing and Examining Patients with Other Medical Problems; Clinical Practice</p>

DAY 3 (continued)	DAY 4	DAY 4 (continued)
<p>Teaching Plan 14: Diagnosing Other Medical Problems</p> <p>Headache Stroke Grand mal epilepsy Petit mal epilepsy Anemia Cancer Diabetes mellitus</p>	<p>Teaching Plan 15: Treating and Caring for Patients with Other Medical Problems</p> <p>Teaching Plan 16: Recognizing the Signs of Mental Health and Alcohol Abuse Problems</p> <p>Teaching Plan 17: Taking a Medical History of the Patient with a Mental Health or Alcohol Abuse Problem</p>	<p>Teaching Plan 20: Treating and Caring for Patients with Mental Health or Alcohol Abuse Problems</p>
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DAY 5	DAY 6	
Teaching Plan 21: Supporting the Person with a Chronic Illness	Teaching Plan 22: Diagnosing Other Common Problems and Caring for Patients; Clinical Practice Group A - Patient care Group B - Interviewing and examining patients Group C - Presenting health messages	
Teaching Plan 22: Diagnosing Other Common Problems and Caring for Patients; Clinical Practice Group A - Interviewing and examining patients Group B - Presenting health messages Group C - Patient care	Teaching Plan 22: Diagnosing Other Common Problems and Caring for Patients; Clinical Practice Group A - Presenting health messages Group B - Patient care Group C - Interviewing and examining patients	
	Posttest	

Skill development: two weeks - Teaching Plan 22
Clinical rotation: one month - Teaching Plan 23
Community phase: three months - Teaching Plan 24

Teaching Plan 1

Recognizing the Signs of Low Back and Joint Problems

OBJECTIVES	<ol style="list-style-type: none">1. Describe the signs of low back or joint problems:<ul style="list-style-type: none">Limited movement of a jointJoint inflammation with redness, swelling, tenderness, or warmthRough sensation when a joint is movedJoint deformityPositive straight leg raising testLeg muscle weaknessLoss of sensation in one legTenderness over the sciatic nerveMuscle spasms and tendernessFeverWeight loss2. Recognize the signs of a low back or joint problem when you see or feel them in a patient.
METHODS	Self-instruction, practice with patients if they are available
MATERIALS	Student Text - Unit 1
PREPARATION	<p>Complete your analysis of pretest results. Assign each student to a small working group of three to four persons. Each group should include students with high pretest scores and students with low pretest scores.</p> <p>Identify patients with signs of low back or joint problems.</p>

Tell students to review the anatomy and physiology of the musculo-skeletal and nervous systems and the Medical History and Physical Examination modules.

Also, tell students to read the Student Text for Unit 1 and to answer the review questions.

TIME: 1 hr 45 min

LEARNING ACTIVITIES	
1. Introduce and explain the Task Analysis Table.	15 min
2. Discuss with students the signs of low back and joint problems and their relation to the anatomy and physiology of the musculo-skeletal and nervous systems.	15 min
3. Students work in small groups to recognize and identify signs of low back and joint problems in patients. If possible, bring patients into the classroom. Give students the opportunity to observe and examine these patients.	45 min
4. Discuss with students any questions about their work with the patients.	15 min
5. Evaluate what the students have learned with an informal posttest.	15 min

ANSWERS TO REVIEW QUESTIONS

Assessing the Patient with a Low Back or Joint Problem

1. Name the four signs of joint inflammation.

- a. *Redness*
- b. *Swelling*
- c. *Tenderness*
- d. *Warmth*

2. Name three common joint deformities.

- a. *Spindle deformity of the fingers*
- b. *Enlargement of the distal joints of the fingers*
- c. *Abnormal curvature of the spine to the right or left side*

3. What causes a rough sensation when you move a patient's joint?

The dry joint surfaces rubbing together causes a rough sensation when the joint is moved

4. What are the signs that a spinal disk is pressing on a nerve?

- a. *Positive straight leg raising test*
- b. *Tenderness over the sciatic nerve*
- c. *Muscle spasms and tenderness*

5. What is a positive straight leg raising test?

A straight leg raising test is positive if the patient has difficulty raising his leg because of back pain or pain radiating down the back of his leg.

6. What causes a positive straight leg raising test?

A damaged spinal disk is pressing on a nerve.

7. Rheumatoid arthritis causes generalized body symptoms. Along with joint symptoms, the patient will report other symptoms. Name two.
- a. *Fever*
 - b. *Weight loss*
8. What questions should you ask a patient with low back or joint pain?
- a. *How did the pain start? How long have you had the pain?*
 - b. *What is the quality of the pain?*
 - c. *Is the pain in only one joint or in many joints?*
 - d. *Does the pain stay in one place or does it move?*
 - e. *Does anything make the pain better or worse?*
 - f. *Have you had any fever or weight loss since the joint pain started?*
9. A patient complains of low back pain. She also has pain which shoots down her right leg to her foot. What does this type of pain tell you?
- Shooting pain down a leg is a sign that a damaged disk is pressing on a spinal nerve.*

Teaching Plan 2

Taking a Medical History of the Patient with a Low Back or Joint Problem

OBJECTIVES	<ol style="list-style-type: none">1. Demonstrate how to take a medical history of the patient with a low back or joint problem.2. Record your findings on official forms.
METHODS	Self-instruction, discussion, practice interview
MATERIALS	Student Text - Unit 1; case studies 65, 66, 67, and 68; record forms
PREPARATION	<p>Remind students to read the case studies in Unit 2 of the Student Text and to review the history of low back and joint problems in Unit 1.</p> <p>Identify patients with low back and joint problems who are willing to come to your classroom.</p>

TIME: 1 hr

LEARNING ACTIVITIES

1. Demonstrate how to interview and examine a patient with a low back or joint problem.	10 min
2. Students practice taking medical histories from other members of their groups, using case studies 65, 66, 67, and 68 as a basis for role-play. After each interview, students evaluate one another. If possible, bring patients into the classroom for students to interview and examine.	30 min
3. Discuss with students the importance of the medical history and its use in diagnosing diseases.	10 min
4. The students summarize what they learned during the session and comment on how they will use this knowledge in their work.	10 min

Teaching Plan 3

Interviewing and Examining Patients with Low Back or Joint Problems; Clinical Practice

OBJECTIVES	<ol style="list-style-type: none">1. Interview a patient about his low back or joint problem.2. Examine a patient with a low back or joint problem.3. Record your findings on official forms.
METHODS	Clinical demonstration, clinical practice
MATERIALS	Medical history and physical examination skill checklists; record forms
PREPARATION	Arrange for students to spend two hours in a hospital ward or outpatient clinic with suitable supervision.

TIME: 1 hr 30 min

LEARNING ACTIVITIES

- | | |
|---|--------|
| 1. Demonstrate how to interview and examine a patient with a low back or joint problem. | 15 min |
| 2. Students interview and examine patients with low back or joint problems, using the medical history and physical examination skill checklists as a guide. | 45 min |
| 3. Students present their findings to the class. Comment on these findings and discuss with students the session's activities. | 30 min |

Teaching Plan 4

Diagnosing Low Back and Joint Problems

OBJECTIVES	<ol style="list-style-type: none">1. Describe the signs and symptoms of: Low back pain caused by muscle strain or sprain of the sacroiliac joint Low back pain caused by disk disease Osteoarthritis Rheumatoid arthritis Septic arthritis2. Demonstrate how to interview and examine patients and diagnose low back and joint problems.
METHODS	Self-instruction, discussion, small group work, instructor presentation, role-play
MATERIALS	Student Text - Unit 2, medical history skill checklist
PREPARATION	Prepare a brief presentation on the signs and symptoms of low back and joint problems.

TIME: 3 hrs

LEARNING ACTIVITIES

1. Present and lead a discussion on the signs and symptoms of low back and joint problems.	1 hr
2. Divide the class into groups of three. Assign each group a different low back or joint problem. Tell each group to: Choose two members to role-play the patient and the health worker Create a presenting complaint and medical history	10 min

	TIME
information for the patient, using information from the text	
3. Groups create patient roles.	30 min
4. The health worker from one group interviews the patient from another group and diagnoses the problem. The other students watch this interaction, using the skill checklist as a guide to correct performance.	20 min
5. The group members switch roles and carry out another interview. Again, the other students watch this interaction.	20 min
6. The full training group meets. Each small group discusses its findings and the interview process.	20 min
7. The students summarize what they learned during the session and how they will use this knowledge in their work.	15 min
8. Remind the students to review the student text information on patient care for low back and joint problems and to begin thinking about appropriate patient and family education approaches for these problems.	5 min

ANSWERS TO REVIEW QUESTIONS

Low Back and Joint Problems

1. Review the signs and symptoms listed below. Check (x) the name of the problem that each sign or symptom is commonly associated with.

	MUSCLE STRAIN OR SPRAIN OF SACROILIAC JOINT	DISK DISEASE
a. Sudden onset of severe, sharp pain which radiates down the leg to the foot and was not caused by heavy work		X
b. Pain in the lower back which started when doing heavy work within the last twenty-four to forty-eight hours	X	
c. Curvature of the lower spine		X
d. Tenderness over the sciatic nerve		X
e. Tenderness over the sacroiliac joint	X	
f. Positive straight-leg raising test		X
g. Negative straight-leg raising test	X	
h. Loss of muscle strength in the leg and foot on the affected side		X
i. Normal muscle strength in the legs and feet	X	
j. Loss of sensation in the leg and foot on the affected side		X
k. No loss of sensation in the legs or feet	X	

2. Review the signs and symptoms listed below. Check (x) the name of the problem that each sign or symptom is commonly associated with. Remember, some signs and symptoms can be associated with more than one problem.

	OSTEO- ARTHRITIS	RHEUMATOID ARTHRITIS	SEPTIC ARTHRITIS
a. Chronic pain in a large weight-bearing joint of an older patient who has done heavy work all his life. The pain has been present for years	X		
b. Pain in the distal joints of the fingers	X	X	
c. Pain in the distal joints of the fingers in a patient with a history of fever, fatigue, and loss of appetite and weight		X	
d. Severe, throbbing pain in the left knee of a male with symptoms of gonorrhea, such as pain and burning on urination and a white discharge from his penis			X
e. Weight loss, fever, fatigue, and joint pain. Several painful joints are stiff in the morning, become less stiff during the day, and then become stiff again in the evening		X	
f. A red and swollen left knee, which is warm and tender when touched and which cannot be moved easily			X
g. Fever with swelling and redness of the fingers in both hands. The fingers are warm and tender when touched		X	

	OSTEO- ARTHRITIS	RHEUMATOID ARTHRITIS	SEPTIC ARTHRITIS
h. A stiff elbow with limited movement. A rough sensation when the elbow is moved, but no signs of joint inflammation such as redness and warmth. The joint is swollen and surrounded with fluid		X	

Teaching Plan 5

Treating and Caring for Patients with Low Back and Joint Problems

OBJECTIVES	<ol style="list-style-type: none">1. Describe how to treat and care for patients with low back or joint problems.2. Demonstrate how to teach patients and their families to care for low back and joint problems at home and to prevent them from becoming worse.
METHODS	Self-instruction, instructor demonstration, small group work, student presentations, discussion
MATERIALS	Student Text – Unit 2; case studies 65, 66, 67, and 68; Diagnostic and Patient Care Guides
PREPARATION	Prepare case studies 65, 66, 67, and 68.

TIME: 1 hr 30 min

LEARNING ACTIVITIES

1. Divide the class into role-play groups. Assign one of the four case studies to each group.	5 min
2. Groups identify the low back or joint problems in their case study and outline the treatment and care procedures for this problem, using the Diagnostic and Patient Care Guides.	10 min
3. Groups present their case study findings and the treatment and care procedures to the class. Comment with students on each group presentation.	20 min
4. Groups exchange case studies and treatment and care information. Each group then develops a	25 min

		TIME
patient or family education message about the low back or joint problem in the case study they now have.		
5.	Students present their patient and family education messages to the group with whom they exchanged case studies.	20 min
6.	Discuss with students the session's activities. Ask the students to summarize what they learned and how it may be helpful in their work. Remind the students to read the student text information on assessing patients with thyroid problems.	10 min

Case Study 65

Name of Patient:	Wilson, Josh
Sex:	Male
Date of Birth:	5 October 1928
Date of Visit:	31 October 1979
Vital Signs:	Temperature 37°C Pulse 72 Respirations 20 Blood pressure 132/82 Weight 62 kg
Presenting Complaint and Medical History:	<p>The patient has had occasional pain in his lower back for the last five years. He is a woodcutter. He felt a sudden pain in his back when he was lifting a log yesterday. Now, walking and bending make the pain worse. The pain does not go down his legs.</p> <p>Past medical history: The patient has a good appetite. He has not lost any weight recently. He has no shortness of breath or chest pain. He does not smoke or drink.</p>
Physical Examination:	<p>The patient looks worried. He cannot stand upright. His mucous membranes are pink. His chest expands evenly. His breath and heart sounds are normal. His abdomen is normal. He has tenderness and muscle spasms in his lower back. Pressing over the sacroiliac joint produces no pain. The straight leg raising test is negative. His legs and feet show no muscle weakness or loss of sensation.</p>
Diagnosis:	Low back pain caused by muscle strain
Patient Care:	<ol style="list-style-type: none">1. Advise bed rest.2. Tell the patient to place a flat board under a thin mattress for sleeping. Tell him to rest for one to two hours several times a day until his back pain subsides.

3. Tell the patient to apply heat to the strained muscle area.
4. Tell the patient to take 600 mg of aspirin every four hours for pain.
5. Encourage the patient to avoid all back strain.
6. Refer the patient to the hospital if symptoms continue for more than two weeks.

Diagnostic
Points:

1. Sudden low back pain within twenty-four hours of lifting a heavy object
2. Pain does not go down his legs
3. Inability to stand upright
4. Tenderness and muscle spasms over lower back area
5. Negative straight leg raising test
6. No muscle weakness or loss of sensation in legs and feet

Case Study 66

Name of Patient: Bell, Victoria
Sex: Female
Date of Birth: 19 August 1946
Date of Visit: 2 December 1979
Vital Signs: Temperature 37°C
Pulse 74
Respirations 28
Blood pressure 110/70
Weight 64 kg

Presenting Complaint and Medical History: The patient complains of severe lower back pain. The pain is sharp and shoots down her right leg. She has had lower back pain off and on for the last six years, but the pain has never been this severe. The pain started suddenly. She was not lifting anything heavy or doing any heavy work when it happened. Now she cannot do her normal work. She cannot sleep in her bed. Sleeping on the floor makes her back feel a little better.

Past medical history: The patient had an operation for fibroid tumors in 1975. Her last menstrual period lasted for five days, with some clots and moderate pain. Her three deliveries were normal. Other than her back problem, she has felt fine for the last few months. However, she does worry some about her children. One child is not doing well in school.

Physical Examination: The patient looks worried and walks as if she is in pain. Her mucous membranes are pink. Her chest and heart sounds are normal. She has a scar from her fibroid tumor surgery on the lower middle part of her abdomen. The examination of the abdomen is normal.

Inspection of the lower spine shows some curvature. No tenderness or muscle spasms are noted during

palpation of the lower back. The straight leg raising test is positive, with pain radiating down her right leg to her foot. She has loss of muscle strength and sensation in her lower right leg. The temperature of both legs and feet are the same and the pulses can be felt, suggesting no circulation problems.

Diagnosis:

Spinal disk disease

Patient Care:

1. Advise complete bed rest.
2. Tell the patient to place a flat board under a thin mattress for sleeping. Advise her to tuck a pillow or a rolled up blanket under her knees. She should also raise her back slightly.
3. Advise her to avoid all back strain.
4. Tell the patient to take 600 mg of aspirin every four hours for pain.
5. Refer the patient to the hospital if the pain or signs of nerve irritation continue for more than one week.

Diagnostic Points:

1. Severe back pain which shoots down the right leg and which started all at once
2. Pain not associated with heavy work
3. Lower back pain for the last six years

Case Study 67

Name of Patient: Edwards, Donald

Sex: Male

Date of Birth: 3 October 1917

Date of Visit: 2 October 1979

Vital Signs: Temperature 37° C
 Pulse 88
 Respirations 24
 Blood pressure 130/84
 Weight 61 kg

Presenting Complaint and Medical History: The patient developed pain in his knees and back about ten years ago. The pain has gradually been getting worse. Sometimes his knees become swollen, but they have never been warm or inflamed. He has never had a fever with his swollen knees. Cool, rainy weather makes the symptoms worse. He has no stiffness in his knees or back when he wakes up in the morning. He has done heavy work all of his life. His back and knees bother him when he lifts heavy objects.

Past medical history: The patient has no history of alcoholism, smoking, major diseases, or surgery.

Physical Examination: The patient looks fairly healthy. His mucous membranes are pink. His tonsils are not enlarged. His neck is normal. His breath sounds are clear and his chest expands evenly on both sides. No abnormal heart sounds or signs of swelling are found. His abdomen is soft. He has pain and limited movement of his back and knees. His left knee feels rough when it is bent. No signs of joint inflammation are noted.

Diagnosis: Osteoarthritis of the back and knees

Patient Care: 1. Advise the patient to rest his back and knees.

2. Tell him to apply moist heat to the painful joints several times a day.
3. Tell him to take 600 mg of aspirin every four hours for pain.

Diagnostic
Points:

1. No history of fatigue, poor appetite, weight loss, or fever
2. An older patient with chronic back and knee pain for ten years
3. Weight bearing joints affected
4. Limited movement of the affected joints, with pain
5. A rough sensation when the knees are moved
6. No evidence of joint inflammation

Case Study 68

Name of Patient:	Rajroop, Linda	
Sex:	Female	
Date of Birth:	19 March 1944	
Date of Visit:	5 December 1979	
Vital Signs:	Temperature	37.6° C
	Pulse	72
	Respirations	22
	Blood pressure	120/80
	Weight	65.5 kg

Presenting Complaint and Medical History:	The patient has a slight fever, feels tired, and has had pain in her knees for three weeks. The joint pain started gradually and is getting worse. Her fingers
---	--

are stiff but not very painful. The pain in her knees and the stiffness in her fingers is worse in the morning, then improves during the day, only to become worse in the evening. She also has some muscle pain in her legs.

Past medical history: Her history reveals no significant problems. Her menstrual cycles are regular.

**Physical
Examination:**

The patient looks healthy. Her mucous membranes are pink. Her tonsils are not enlarged. Her neck is normal. Her breath sounds are clear, and her chest expands evenly on both sides. No abnormal heart sounds or signs of swelling are found. Her abdomen is soft. Her knees are red and swollen. They are warm and tender when touched. Their movement is limited and painful. Her fingers appear normal, with no limitation of movement although the patient says they are stiff. Her finger joints are not inflamed.

Diagnosis:

Rheumatoid arthritis

Patient Care:

1. Advise bed rest, to be increased during acute attacks.
2. Tell the patient to rest the affected joints completely for one to two hours several times a day.
3. Tell the patient to exercise the affected joints at least three times a day.
4. Tell her to take 900 mg of aspirin every four hours for pain.
5. Explain that her problem cannot be cured but that proper treatment and care can control pain and keep the affected joints working.

**Diagnostic
Points:**

1. Slight fever and fatigue
2. Many painful joints with leg muscle pain
3. Joint stiffness in the morning which improves during the day and becomes worse at night
4. Red and swollen joints which are warm and tender when touched
5. Limited joint movement

Teaching Plan 6

Recognizing the Signs of Thyroid Problems

OBJECTIVES

1. Describe the signs of thyroid problems:
 - Enlarged smooth or nodular thyroid gland
 - Puffy face with a dull, uninterested expression
 - Slow, slurred speech with a low pitched voice
 - Slow body movements
 - Thick, dry skin
 - Coarse, brittle hair
 - Bulging, staring eyes
 - Fine tremors of the hands
 - Increased resting pulse rate
 - Moist skin
 - Fine, silky hair
 - Weight loss
 - Hoarseness
2. Recognize the signs of a thyroid problem when you see or feel them in a patient.

METHODS

Self-instruction, practice with patients if they are available

MATERIALS

Student Text – Unit 3

PREPARATION

Identify patients with signs of thyroid problems.

Tell students to review the anatomy and physiology of the thyroid gland and the Medical History and Physical Examination modules.

Also, tell students to read the Student Text for Unit 3 and to answer the review questions.

TIME: 1 hr

LEARNING ACTIVITIES

- | | |
|--|--------|
| 1. Discuss with students the signs of thyroid problems and their relation to the anatomy and physiology of the thyroid gland. | 15 min |
| 2. Students work in small groups to recognize and identify signs of thyroid problems in patients. If possible, bring patients into the classroom. Give students the opportunity to observe and examine these patients. | 30 min |
| 3. Discuss with students any questions about their work with the patients. | 10 min |
| 4. Evaluate what the students have learned with an informal posttest. | 5 min |

ANSWERS TO REVIEW QUESTIONS

Assessing the Patient with a Thyroid Problem

1. A patient with a thyroid problem has an enlarged thyroid gland. An enlarged thyroid gland usually feels smooth, but sometimes nodules can be felt.
2. An enlarged thyroid gland can press on the voice box causing hoarseness.
3. Except for a simple goiter, the signs and symptoms of thyroid problems are caused by the production of either too much or too little thyroid hormone. Review the signs listed below. Check (x) the appropriate column to indicate if each is a sign that the thyroid gland is producing too much or too little thyroid hormone.

	THYROID GLAND IS PRODUCING TOO MUCH THYROID HORMONE	THYROID GLAND IS PRODUCING TOO LITTLE THYROID HORMONE
a. A puffy face with a dull, uninterested expression		X
b. Slow, slurred speech with a low pitched voice		X
c. Slow body movements		X
d. Bulging, staring eyes	X	
e. Coarse, brittle hair		X
f. Fine, silky hair	X	
g. Thick, dry skin		X
h. Moist skin	X	
i. Fine tremors of the hands	X	
j. Increased resting pulse rate	X	
k. Weight loss in a patient with a good appetite	X	

4. What two menstrual symptoms may a woman in her mid-forties report if her thyroid gland is producing too little thyroid hormone?
 - a. *Her menstrual periods are lasting longer than is normal.*
 - b. *She is having unusually heavy bleeding.*

5. During the physical examination it is important to notice the general appearance of a patient with a suspected thyroid problem. What will you notice in a patient who is producing too much or too little thyroid hormone concerning the following?
 - a. The patient's movements:
A patient with decreased thyroid hormone production moves slowly.
 - b. The patient's face:
A patient producing too little thyroid hormone has a puffy face with a dull expression.
 - c. The patient's eyes:
A patient with increased thyroid hormone production has bulging, staring eyes.

6. When examining a patient for a thyroid problem:
 - a. Why do you lightly touch the patient's finger tips with the palm of your hand?
To check the fingers for fine tremors
 - b. Is this a sign that the patient is producing too much or too little thyroid hormone?
This is a sign that the patient is producing too much thyroid hormone.

Teaching Plan 7

Taking a Medical History of the Patient with a Thyroid Problem

OBJECTIVES	<ol style="list-style-type: none">1. Demonstrate how to take a medical history of the patient with a thyroid problem.2. Record your findings on official forms.
METHODS	Self-instruction, discussion, practice interview
MATERIALS	Student Text - Unit 3, case study 69, record forms
PREPARATION	<p>Remind students to read the case study in Unit 4 of the Student Text and to review the history of thyroid problems in Unit 3.</p> <p>Identify patients with thyroid problems who are willing to come to your classroom.</p>

TIME: 1 hr

LEARNING ACTIVITIES

1. Demonstrate how to interview and examine a patient with a thyroid problem.	10 min
2. Students practice taking medical histories from other members of their groups, using case study 69 as a basis for role-play. After each interview, students evaluate one another. If possible, bring patients into the classroom for students to interview and examine.	30 min
3. Discuss with students the importance of the medical history and its use in diagnosing diseases.	10 min
4. The students summarize what they learned during the session and comment on how they will use this knowledge in their work.	10 min

Teaching Plan 8

Interviewing and Examining Patients with Thyroid Problems; Clinical Practice

OBJECTIVES	<ol style="list-style-type: none">1. Interview a patient about his thyroid problem.2. Examine a patient with a thyroid problem.3. Record your findings on official forms.
METHODS	Clinical demonstration, clinical practice
MATERIALS	Medical history and physical examination skill checklists; record forms
PREPARATION	Arrange for students to spend two hours in a hospital ward or outpatient clinic with suitable supervision.

TIME: 1 hr

LEARNING ACTIVITIES

1. Demonstrate how to interview and examine a patient with a thyroid problem.	10 min
2. Students interview and examine patients with thyroid problems, using the medical history and physical examination skill checklists as a guide.	30 min
3. Students present their findings to the class. Comment on these findings and discuss with students the session's activities.	20 min

Teaching Plan 9

Diagnosing Thyroid Problems

OBJECTIVES	1. Describe the signs and symptoms of: Simple goiter Hypothyroidism Hyperthyroidism 2. Demonstrate how to interview and examine patients and diagnose thyroid problems.
METHODS	Self-instruction, discussion, small group work, instructor presentation, role-play
MATERIALS	Student Text - Unit 4, medical history skill checklist
PREPARATION	Prepare a brief presentation on the signs and symptoms of thyroid problems.

TIME: 1 hr 30 min

LEARNING ACTIVITIES

1. Present and lead a discussion on the signs and symptoms of thyroid problems.	10 min
2. Divide the class into groups of three. Assign each group a different thyroid problem. Tell each group to: Choose two members to role-play the patient and the health worker Create a presenting complaint and medical history information for the patient, using information from the text	15 min
3. Groups create patient roles.	30 min
4. The health worker from one group interviews the patient from another group and diagnoses the problem. The other students watch this inter-	15 min

	TIME
action, using the skill checklist as a guide to correct performance.	
5. The full training group meets. Each small group discusses its findings and the interview process.	10 min
6. The students summarize what they learned during the session and how they will use this knowledge in their work.	5 min
7. Remind the students to review the student text information on patient care for thyroid problems and to begin thinking about appropriate patient and family education approaches for these problems.	5 min

ANSWERS TO REVIEW QUESTIONS

Thyroid Problems

1. A lack of iodine is a common cause of a simple goiter.
2. Hypothyroidism means that the thyroid gland is producing too little thyroid hormone. Hyperthyroidism means that the thyroid gland is producing too much thyroid hormone.
3. Review the signs and symptoms listed below. Check (x) the name of the problem that each sign or symptom is commonly associated with. Remember, some signs and symptoms can be associated with more than one problem.

	SIMPLE GOITER	HYPO- THYROIDISM	HYPER- THYROIDISM
a. A large swelling in the front of the neck	X	X	X
b. Lack of energy, weakness, fatigue		X	
c. Nervousness, restlessness, irritability			X
d. Large appetite but weight loss			X
e. Constipation		X	
f. Loose stools			X
g. Long menstrual periods with heavy bleeding in an older woman		X	
h. Blurry vision			X

	SIMPLE GOITER	HYPO- THYROIDISM	HYPER- THYROIDISM
i. A puffy face with a dull, uninterested expression		X	
j. Slow, slurred speech with a low pitched voice		X	
k. Hoarseness	X	X	
l. Slow movements		X	
m. Bulging, staring eyes			X
n. Coarse, brittle hair		X	
o. Fine, silky hair			X
p. Enlarged smooth thyroid gland	X	X	X
q. Enlarged thyroid gland with nodules	X		
r. Thick, dry skin		X	
s. Moist skin			X
t. Fine tremors of the hands			X
u. Increased resting pulse rate			X
v. Weight loss			X

4. A forty-four-year-old woman complains of feeling tired and sleepy. She is too weak to do her daily work and wants only to sleep. She has been very constipated. Her menstrual periods are regular, but for the last four months they have lasted longer and bleeding has been heavier than usual. Her last menstrual period was two weeks ago.

The patient's vital signs are normal. Her face is puffy, and she seems disinterested in her surroundings. She moves very slowly. Her speech is slightly slurred. The patient reports that her hair breaks

off easily. Her thyroid gland is slightly enlarged and is smooth when palpated. Her skin is dry, but no thickening can be detected. Further examination of her neck, chest, heart, arms, and legs reveals nothing abnormal.

- a. What is your diagnosis?

Hypothyroidism

- b. What patient care would you provide for this patient?

Refer the patient to the hospital.

Teaching Plan 10

Treating and Caring for Patients with Thyroid Problems

OBJECTIVES	<ol style="list-style-type: none">1. Describe how to treat and care for patients with thyroid problems.2. Demonstrate how to teach patients and their families to care for a simple goiter at home and to prevent it from becoming worse.
METHODS	Self-instruction, instructor demonstration, small group work, student presentations, discussion
MATERIALS	Student Text – Unit 4, case study 69, Diagnostic and Patient Care Guides
PREPARATION	Prepare case study 69.

TIME: 1 hr

LEARNING ACTIVITIES

1. Divide the class into role-play groups	5 min
2. Groups identify the thyroid problem in the case study and outline the treatment and care procedures for this problem, using the Diagnostic and Patient Care Guides.	15 min
3. Groups present their case study findings and the treatment and care procedures to the class. Comment with students on each group presentation.	15 min
4. Each group then develops a patient or family education message about the thyroid problem in the case study.	10 min

TIME

- | | |
|--|--------|
| 5. Students present their patient and family education messages to the group. | 10 min |
| 6. Discuss with students the session's activities. Ask the students to summarize what they learned and how it may be helpful in their work. Remind the students to read the student text information on assessing patients with common medical problems. | 5 min |

Case Study 69

Name of Patient:	Mayers, Joy
Sex:	Female
Date of Birth:	3 March 1957
Date of Visit:	6 December 1979
Vital Signs:	Temperature 37° C Pulse 80 Respirations 20 Blood pressure 100/73 Weight 51 kg
Presenting Complaint and Medical History:	<p>The patient has a swelling in her neck which has grown over the last three months. The swelling is not painful. She has noticed her heart pounding several times within the last two months, but she has not otherwise felt nervous. She has been sleeping well. Her appetite has been normal. She has not lost or gained any weight.</p> <p>Past medical history: She has two children. Her last menstrual period started November 19. It lasted for five days, with some clots but no menstrual cramps. She has noted no weight loss, cough, shortness of breath, difficulty swallowing, fever, nervousness, or diarrhea.</p>
Physical Examination:	<p>The patient looks healthy. A smooth swelling is visible in the lower front part of her neck. No bulging of eyes or fine tremors are noted. Her breath and heart sounds are normal, with no heart murmur. Her abdomen is soft and not tender. No enlarged liver, enlarged spleen, or masses are felt.</p>
Diagnosis:	Simple goiter
Patient Care:	Simple goiter usually requires no treatment.

**Diagnostic
Points:**

1. Painless enlargement of thyroid gland with gradual onset
2. No change in weight or appetite
3. No change in personality or complaints of fatigue or loss of energy
4. No signs of increased thyroid hormone production, such as tremor, bulging eyes, or rapid heart rate

Teaching Plan 11

Recognizing the Signs of Other Medical Problems

OBJECTIVES	<ol style="list-style-type: none">1. Describe the signs of other medical problems:<ul style="list-style-type: none">Loss of consciousnessParalysis of one side of the faceParalysis of an arm or leg on one sideDifficulty speakingHard lump or mass anywhere in the bodyPale or white conjunctivaePale or white mucous membranes of the mouthPale or white nail bedsObesity2. Recognize the signs of other medical problems when you see or feel them in a patient.
METHODS	Self-instruction, practice with patients if they are available
MATERIALS	Student Text - Unit 5
PREPARATION	<p>Identify patients with signs of other medical problems.</p> <p>Tell students to review the anatomy and physiology of the eyes, mouth, skin, breast, abdomen, and nervous system, and the Medical History and Physical Examination modules.</p> <p>Also, tell students to read the Student Text for Unit 5 and to answer the review questions.</p>

TIME 1 hr

LEARNING ACTIVITIES

- | | |
|--|--------|
| 1. Discuss with students the signs of other medical problems and their relation to the anatomy and physiology of the eyes, mouth, skin, breast, abdomen, and nervous system. | 15 min |
| 2. Students work in small groups to recognize and identify signs of other medical problems in patients. If possible, bring patients into the classroom. Give students the opportunity to observe and examine these patients. | 30 min |
| 3. Discuss with students any questions about their work with the patients. | 10 min |
| 4. Evaluate what the students have learned with an informal posttest. | 5 min |

ANSWERS TO REVIEW QUESTIONS

Assessing the Patient with Other Medical Problems

1. A patient with grand mal epilepsy will have a convulsion while he is unconscious. Describe the signs of the convulsion. Describe other signs to note in the patient following the convulsion.

During the convulsion, his arms and legs will jerk in a regular rhythm. Then he will sleep deeply. The patient will awake confused.

2. A patient has difficulty speaking after suddenly losing consciousness.
 - a. What other signs would you look for?

Paralysis of one side of the face, or paralysis of one or both of the legs or arms on one side of the body

- b. What caused these signs?

Brain damage caused by a stroke

3. A rapidly growing hard lump or mass can be found anywhere in the body. When during the physical examination should you be particularly alert for these signs?

- a. Lump: *During the female breast examination*

- b. Mass: *During palpation of the abdomen*

4. What are the signs of a lack of hemoglobin or of red cells in the blood?

Pale or white conjunctivae, mucous membranes of the mouth, and nail beds

5. An overweight, or obese, patient will often have high blood pressure. What other sign would you look for in an overweight patient?

Sugar in the urine

6. A patient comes to you with a headache. List the questions you should ask the patient about his headache?
- How long have you been having headaches?*
 - Where does your head hurt?*
 - What kind of pain is it?*
 - How did the pain start?*
 - How long does it last?*
 - Does it keep you awake at night?*
 - Do you have any fever or chills?*
 - Have you had a recent upper respiratory infection or other illness?*
 - Are you taking any drugs or medications?*
 - Has anyone else in your family had headaches like the one you are having?*
7. Match these symptoms of a headache with the possible cause of the headache.

SYMPTOMS	POSSIBLE CAUSE OF HEADACHE
<u>f</u> Pain behind an eye	a. Sinus infection
<u>e</u> Severe pain which has come and gone over the last three months. The pain is located over the entire left side of the head. The pain is so severe that it causes the patient to vomit. His mother has the same problem	b. Stroke
	c. Tension
<u>b</u> A sudden, severe headache followed by a loss of consciousness	d. Dental problem
<u>c</u> A headache which usually starts late in the day after an argument with the patient's husband or children. The headache does not keep her from sleeping and is usually gone in the morning. The pain is located in the back of her head and in her neck	e. Migraine
	f. Eye emergency

d A throbbing pain which seems to pass from the jaw up into the side of the head

a A severe pain over the right maxillary sinus

8. A pregnant woman who is anemic tells you that she fainted. You ask her, "How did you feel before you fainted?" What might she answer?

A pregnant woman who is anemic may say that she felt weak, tired, and out of breath before she fainted.

9. A mother tells you that her teenaged daughter suddenly collapsed and lost consciousness. The mother thinks her daughter had a convulsion.

- a. You ask the daughter how she felt before she lost consciousness. She says, "My muscles started to twitch." What else might she say?

She may report a change in her sight, hearing, or sense of taste or smell. Or she may report that nothing else happened.

- b. You ask the mother to describe her daughter's behavior while she was unconscious. What might the mother tell you?

She may say that her daughter's arms and legs jerked in a regular rhythm. She may report that her daughter soiled herself or bit her tongue.

10. Sugar in the urine is a sign of diabetes.

11. List the signs of facial muscle weakness which you might find in a nervous system examination.

- a. *One eye which does not close completely*
- b. *Inability to wrinkle one side of the forehead*
- c. *Inability to pull back the corner of one side of the mouth to show the teeth*
- d. *One ballooned cheek that is easier to push in than the other*
- e. *Inability to stick out the tongue so it is in the middle of the mouth*

12. TRUE (T) or FALSE (F)

T The signs of facial muscle weakness will appear on the same side of the face as any brain damage.

Teaching Plan 12

Taking a Medical History of the Patient with Other Medical Problems

OBJECTIVES	<ol style="list-style-type: none">1. Demonstrate how to take a medical history of the patient with other medical problems.2. Record your findings on official forms.
METHODS	Self-instruction, discussion, practice interview
MATERIALS	Student Text – Unit 5; case studies 70, 71, 72, 73, and 74; record forms
PREPARATION	<p>Remind students to read the case studies in Unit 6 of the Student Text and to review the history of other medical problems in Unit 5.</p> <p>Identify patients with other medical problems who are willing to come to your classroom.</p>

TIME: 1 hr

LEARNING ACTIVITIES

1. Demonstrate how to interview and examine a patient with other medical problems.	15 min
2. Students practice taking medical histories from other members of their groups using case studies 70, 71, 72, 73, and 74 as a basis for role-play. After each interview, students evaluate one another. If possible, bring patients into the classroom for students to interview and examine.	25 min
3. Discuss with students the importance of the medical history and its use in diagnosing diseases.	10 min
4. The students summarize what they learned during the session and comment on how they will use this knowledge in their work.	10 min

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Teaching Plan 13

Interviewing and Examining Patients with Other Medical Problems; Clinical Practice

OBJECTIVES	<ol style="list-style-type: none">1. Interview a patient about his other medical problem.2. Examine a patient with other medical problems.3. Record your findings on official forms.
METHODS	Clinical demonstration, clinical practice
MATERIALS	Medical history and physical examination skill checklists; record forms
PREPARATION	Arrange for students to spend two hours in a hospital ward or outpatient clinic with suitable supervision.

TIME: 1 hr

LEARNING ACTIVITIES

1. Demonstrate how to interview and examine a patient with other medical problems.	15 min
2. Students interview and examine patients with other medical problems, using the medical history and physical examination skill checklists as a guide.	30 min
3. Students present their findings to the class. Comment on these findings and discuss with students the session's activities.	15 min

Teaching Plan 14

Diagnosing Other Medical Problems

OBJECTIVES	1. Describe the signs and symptoms of Headache Stroke Grand mal epilepsy Petit mal epilepsy Anemia Cancer Diabetes mellitus
	2. Demonstrate how to interview and examine patients and diagnose other medical problems.
METHODS	Self-instruction, discussion, small group work, instructor presentation, role-play
MATERIALS	Student Text – Unit 6, medical history skill checklist
PREPARATION	Prepare a brief presentation on the signs and symptoms of other medical problems.

TIME: 1 hr 5 min

LEARNING ACTIVITIES

- | | |
|---|--------|
| 1. Present and lead a discussion on the signs and symptoms of other medical problems. | 10 min |
| 2. Divide the class into groups of three. Assign each group a different other medical problem. Tell each group to:

Choose two members to role-play the patient and the health worker

Create a presenting complaint and medical history information for the patient, using information from the text | 10 min |
| 3. Groups create patient roles. | 10 min |

	TIME
4. The health worker from one group interviews the patient from another group and diagnoses the problem. The other students watch this interaction, using the skill checklist as a guide to correct performance.	10 min
5. The full training group meets. Each small group discusses its findings and the interview process.	10 min
6. The students summarize what they learned during the session and how they will use this knowledge in their work.	10 min
7. Remind the students to review the student text information on patient care for other medical problems and to begin thinking about appropriate patient and family education approaches for these problems.	5 min

ANSWERS TO REVIEW QUESTIONS

Other Medical Problems

1. List the common causes and types of headaches.

- | | |
|---------------------------|-------------------------------|
| a. <i>Head trauma</i> | e. <i>Eye emergencies</i> |
| b. <i>Sinus infection</i> | f. <i>High blood pressure</i> |
| c. <i>Fever</i> | g. <i>Migraine headache</i> |
| d. <i>Dental problems</i> | h. <i>Tension headache</i> |

2. A person who has suffered a stroke often has a history of what problem?

High blood pressure

3. How can strokes be prevented?

Detecting and treating patients with high blood pressure can help to prevent strokes.

4. TRUE (T) or FALSE (F)

T A patient with grand mal epilepsy may have to take phenytoin sodium for the rest of his life.

5. You have diagnosed a patient with grand mal epilepsy.

a. How would you start the patient on phenytoin sodium treatment?
How would you adjust the dosage of this drug?

Give the patient 100 mg of phenytoin sodium every night for one week.

Increase the dosage of phenytoin sodium to 200 mg every night for another week.

Continue to increase the dosage of phenytoin sodium until the patient stops having convulsions. This may require as much as 600 mg of phenytoin sodium per day.

- b. You have treated the patient with phenytoin sodium as you described above. The patient still reports having convulsions. How would you treat the patient?

Give the patient 30 mg of phenobarbital two times a day. Increase the dosage of phenobarbital by 30 mg two times a day at weekly intervals until the convulsions are controlled.

6. What medicine can prevent anemia in pregnant women, lactating women, or women with heavy menstrual periods?

Iron

7. List the important signs and symptoms of cancer.

- a. *Skin sores or lesions which do not heal*
- b. *Breast lumps*
- c. *Hard lumps or masses anywhere in the body*
- d. *Large liver or spleen or other hard mass in the abdomen*
- e. *Unexplained bleeding*
- f. *Unexplained weight loss or loss of appetite*

8. Adult patients often have few symptoms of diabetes until they develop a severe bacterial infection. What symptoms of diabetes are then seen?

- a. *Increased thirst*
- b. *Increased urination*
- c. *Increased appetite*

9. Name two common signs of diabetes.

- a. *Obesity*
- b. *Sugar in the urine*

10. Check (x) each problem which could be a complication of diabetes.

☐ Asthma

☒ Pneumonia

- X Urinary tract infection
- X Vaginal infection
- Loss of hearing
- X Loss of vision
- X Stroke
- X Heart attack
- X Frequent and severe skin abscesses
- Eczema
- X Frequent cellulitis
- X Skin sores which do not heal
- X Poor circulation causing a leg to become cold and painful
- X Kidney failure

11. You must learn to recognize the major differences in the signs and symptoms of two of the complications of diabetes. On the following chart, write in your answers to the questions or statements about increased blood sugar and low blood sugar.

INCREASED BLOOD SUGAR
AND KETOACIDOSIS

- a. Has the patient been taking insulin injections?

No

- b. Describe the patient's breathing.

Deep and gasping

- c. Does the patient's breath smell like very ripe fruit?

Yes

- d. Does the patient show signs of dehydration?

Yes

LOW BLOOD SUGAR

- a. Has the patient been taking insulin injections?

Yes

- b. Describe the patient's breathing.

Normal

- c. Does the patient's breath smell like very ripe fruit?

No

- d. Does the patient show signs of dehydration?

No

Teaching Plan 15

Treating and Caring for Patients with Other Medical Problems

OBJECTIVES	<ol style="list-style-type: none">1. Describe how to treat and care for patients with other medical problems.2. Demonstrate how to teach patients and their families to care for other medical problems at home and to prevent them from becoming worse.3. Teach the patient with diabetes how to give himself an insulin injection.
METHODS	Self-instruction, instructor demonstration, small group work, student presentations, discussion
MATERIALS	Student Text - Unit 7; case studies 70, 71, 72, 73, and 74; Diagnostic and Patient Care Guides; skill checklist for Teaching a Patient How to Give Himself an Insulin Injection
PREPARATION	Prepare case studies 70, 71, 72, 73, and 74.

TIME: 1 hr 50 min

LEARNING ACTIVITIES

1. Divide the class into role-play groups. Distribute one of the five case studies to each group.	5 min
2. Groups identify the other medical problem in their case study and outline the treatment and care procedures for this problem, using the Diagnostic and Patient Care Guides.	10 min
3. Groups present their case study findings and the treatment and care procedures to the class. Comment with students on each group presentation.	20 min

	TIME
4. Groups exchange case studies and treatment and care information. Each group then develops a patient or family education message about the other medical problem in the case study they now have.	20 min
5. Students present their patient and family education messages to the group with whom they exchanged case studies. Include teaching a patient with diabetes how to give himself an insulin injection.	40 min
6. Discuss with students the session's activities. Ask the students to summarize what they learned and how it may be helpful in their work. Remind the students to read the student text information on assessing patients with mental health and alcohol abuse problems.	15 min

Case Study 70

Name of Patient: Layne, Lucille
Sex: Female
Date of Birth: 12 September 1948
Date of Visit: 12 October 1979
Vital Signs: Temperature 37°C
Pulse 70
Respirations 22
Blood pressure 110/80
Weight 74 kg

Presenting Complaint and Medical History: The patient tires easily and is short of breath when she does hard work. This problem has been getting worse gradually over the last two years. She feels better when she lies down, but she becomes dizzy when she stands quickly. She has not noticed any swelling of her eyes, wheezing, or cough. She has no fever or chest pain.

Past medical history: Her last menstrual period was two weeks ago. It lasted for seven days. The flow was heavy, with clots. Her menstrual periods have always been heavy. The patient has not had any black stools or pain in her abdomen.

Physical Examination: The patient is overweight but is in no distress. Her mucous membranes, tongue, and nail beds are pale. The patient is not short of breath. Her neck veins are not distended. Her breath and heart sounds are normal, with no murmur. Her abdomen is soft, with no palpable organs and no tenderness.

Diagnosis: Anemia caused by loss of blood

Patient Care:

1. Start the patient on iron tablets. Tell her to take one 300 mg tablet three times a day with meals.
2. Refer her to the hospital for evaluation of her heavy menstrual periods.

Diagnostic Points:

1. Pale mucous membranes
2. Tires easily
3. Heavy menstrual periods as source of blood loss

Case Study 71

Name of Patient: Williams, Naomi
Sex: Female
Date of Birth: 19 May 1956
Date of Visit: 5 December 1979
Vital Signs:
Temperature 36.4°C
Pulse 82
Respirations 20
Blood pressure 110/80
Weight 56 kg

Presenting Complaint and Medical History:

The patient has had occasional headaches for the last six months. Rest helps. Noise makes the headaches worse. The headaches usually occur in the front of her head. The pain is throbbing and circles her head like a band. No other symptoms are associated with the headaches.

Past medical history: The patient has had no serious illnesses. She has two living children. Her last menstrual period was November 19. It lasted seven days, with severe pain and heavy bleeding. The patient

has no visual disturbance, history of nausea or vomiting, hearing difficulties, or problems with balance. She reports no unusual problems with her husband or children.

Physical
Examination:

The patient looks healthy. Her mucous membranes are pink and moist. Her tonsils are not enlarged. Her breath and heart sounds are normal, with no murmur. Her thyroid is not enlarged. Her abdomen is soft, without tenderness or palpable organs.

Diagnosis:

Tension headache

Patient Care:

1. Discuss with the patient the cause of the tension headache.
2. Help identify one or two other people with whom she can discuss the cause of her tension headaches if they continue.
3. Tell her to take 600 mg of aspirin every four hours for pain.

Diagnostic
Point

Headache which circles the head like a band

Case Study 72

Name of Patient: Dobson, Patsy
Sex: Female
Date of Birth: 5 November 1969
Date of Visit: 5 December 1979
Vital Signs: Temperature 36.4° C
Pulse 96
Respirations 20
Blood pressure 100/60
Weight 34 kg

Presenting Complaint and Medical History: The child's mother reports that the little girl suddenly had a convulsion today. The child felt sick to her stomach before suddenly losing consciousness. Her arms and legs became stiff, and her body began to jerk. After a few minutes the jerking stopped, and she slept for about one-half hour. When she regained consciousness, she felt very weak and could not remember the attack.

Past medical history: The child has had one similar attack in the past. Her appetite has been normal. She has had no neck pain or fever. She does not complain of headaches.

Physical Examination: The patient is a healthy looking child who is accompanied by her very anxious mother. The child is alert and aware of her surroundings. No evidence of anemia or jaundice is noted. She does not have inflamed tonsils or a respiratory infection. Her breath and heart sounds are clear, with no heart murmur. Her abdomen is soft, with no palpable organs or tenderness. She walks normally, with no apparent muscle weakness.

Diagnosis: Grand mal epilepsy, cause unknown

Patient Care:

1. Begin an anti-convulsant drug. Recommend 100 mg of phenytoin sodium every night.
2. Explain the importance of taking the drug regularly and of increasing the dosage after one week.
3. Teach the mother emergency measures to protect the child from injuring herself during an attack.
4. Tell the patient to return to the clinic in one week for a check. Explain the importance of regular visits over the next few years.

Diagnostic Points:

1. Convulsion
2. History of similar attack
3. Sick to stomach and sudden loss of consciousness
4. Arms and legs stiff and then jerking while unconscious
5. Slept after convulsion and then awoke and could not remember what happened
6. Physical examination normal

Cast Study 73

Name of Patient: Robbins, Margaret

Sex: Female

Date of Birth: 19 April 1935

Date of Visit: 12 August 1979

Vital Signs: Temperature 37° C
 Pulse 72
 Respirations 22
 Blood pressure 110/80
 Weight 93 kg

Presenting Complaint and Medical History: The patient has had headaches off and on for the last three months. The headaches are not worse, but she wanted her blood pressure checked. She is often tired but has trouble sleeping. Her father died of high blood pressure.

Past medical history: The patient had fibroid tumors removed earlier in the year. She has a big appetite but thinks she may have lost some weight over the last three months. She urinates frequently. She has no complaints of shortness of breath or chest pain.

Physical Examination: The patient looks healthy but obese. Her mucous membranes are pink and moist. Her thyroid gland is not enlarged. Her breath sounds are clear. She has a scar in the middle of her lower abdomen. No organs can be felt. A urine examination reveals sugar present.

Diagnosis: Diabetes

Patient Care: 1. Explain to the patient that her urinary symptoms are related to diabetes.
 2. Advise the patient to eat less food and to eliminate sugar from her diet. Encourage her to lose weight.

3. Ask the patient to return every two weeks for a follow-up check for diabetes.

Diagnostic
Points:

1. Obesity
2. Sugar in the urine
3. Increased urination

Case Study 74

Name of Patient: Ling, Susan
Sex: Female
Date of Birth: 7 November 1932
Date of Visit: 15 August 1981
Vital Signs: Temperature 37° C
 Pulse 84
 Respirations 20
 Blood pressure 132/80
 Weight 49 kg

Presenting Complaint and Medical History: The woman complains of a lump in her left breast. She first noticed the lump four weeks ago. She thinks the lump is getting larger. It is not painful. The woman's appetite is poor. She says she tires easily and has lost weight.

Past medical history: She has five children. All the children were delivered normally. She had one other pregnancy but miscarried. Her menstrual periods stopped four years ago. She cannot remember ever having a serious illness.

Physical Examination: The woman looks anxious. She is pale and thin. Her mucous membranes and tongue are pale. No enlarged glands can be felt in her neck. Her neck is very thin. Her chest and heart sounds are normal. Her lower legs and ankles are not swollen. Her abdomen is soft, with no palpable organs. Her genitals are normal. She has no skin rashes.

A breast examination reveals that the left nipple does not point downward like the right, but tilts slightly up. A hard mass can be felt near the nipple. The mass is about 3 cm in diameter and is attached to the skin. The mass does not appear to be attached to deeper tissue. The lymph glands in her left underarm are swollen.

Diagnosis: Probably cancer of the left breast

Patient Care: Refer the patient to a hospital immediately for further evaluation

Diagnostic Points:

1. Lump in left breast that is getting bigger
2. Loss of appetite and weight
3. Pale and thin
4. Mucous membranes and tongue pale
5. Left nipple tilted upwards compared with right nipple
6. Small, hard mass that is attached to the skin above the nipple
7. Enlarged lymph gland in the left underarm

Teaching Plan 16

Recognizing the Signs of Mental Health and Alcohol Abuse Problems

OBJECTIVES	<ol style="list-style-type: none"><li data-bbox="425 713 1352 1626">1. Describe the signs of mental health and alcohol abuse problems:<ul style="list-style-type: none"><li data-bbox="562 813 878 871">Unusual behavior<li data-bbox="562 883 1029 941">Abnormal emotional state<li data-bbox="562 952 974 1010">Abnormal mental state<li data-bbox="562 1022 946 1080">Sudden loss of speech<li data-bbox="562 1092 932 1150">Sudden loss of vision<li data-bbox="562 1162 960 1220">Sudden loss of hearing<li data-bbox="562 1231 1289 1301">Sudden paralysis or loss of sensation in an arm or leg<li data-bbox="562 1313 946 1371">Loss of consciousness<li data-bbox="562 1382 1015 1440">Enlarged and tender liver<li data-bbox="562 1452 946 1510">Fluid in the abdomen<li data-bbox="562 1522 727 1580">Jaundice<li data-bbox="562 1591 782 1650">Weight loss<li data-bbox="562 1661 795 1719">Malnutrition<li data-bbox="425 1731 1352 1789">2. Recognize the signs of a mental health or alcohol abuse problem when you see or feel them in a patient.
METHODS	Self-instruction, practice with patients if they are available
MATERIALS	Student Text – Unit 7
PREPARATION	Identify patients with signs of mental health or alcohol abuse problems. Tell students to review the anatomy and physiology

of the gastrointestinal, musculo-skeletal, and nervous systems and the Medical History and Physical Examination modules.

Also, tell students to read the Student Text for Unit 7 and to answer the review questions.

TIME: 1 hr

LEARNING ACTIVITIES

- | | |
|--|--------|
| 1. Discuss with students the signs of mental health and alcohol abuse problems and their relation to the anatomy and physiology of the gastrointestinal, musculo-skeletal, and nervous systems. | 15 min |
| 2. Students work in small groups to recognize and identify signs of mental health and alcohol abuse problems in patients. If possible, bring patients into the classroom. Give students the opportunity to observe and examine these patients. | 30 min |
| 3. Discuss with students any questions about their work with the patients. | 10 min |
| 4. Evaluate what the students have learned with an informal posttest. | 5 min |

ANSWERS TO REVIEW QUESTIONS

Assessing the Patient with a Mental Health or Alcohol Abuse Problem

1. Chronic alcoholism can cause liver damage. What are the signs of serious liver disease?
 - a. *Enlarged and tender liver*
 - b. *Fluid in the abdomen*
 - c. *Jaundice*

2. You may smell alcohol on the breath of a patient who is unconscious or difficult to arouse. Check (x) one of the two possible steps you would take when assessing this patient.

☐ Assume the patient lost consciousness because of alcohol intoxication.

☒ Rule out other causes of unconsciousness such as stroke, head injury, or diabetes before assuming the patient lost consciousness because of alcohol intoxication.

3. TRUE (T) or FALSE (F)

☒ A patient with a mental health problem can suddenly lose the ability to speak, see, or hear.

☒ A patient with a mental health problem can develop paralysis of an arm or leg. He can also lose sensation in an arm or leg.

☒ A patient with an alcohol abuse problem may suffer from chronic weight loss and malnutrition.

4. When interviewing a patient with a suspected mental health or alcohol abuse problem, you must practice your best skills of listening , observing , and questioning to make the patient and his family comfortable and willing to talk .

5. List some important interviewing guidelines to follow with a patient suspected of having a mental health or alcohol abuse problem.
 - a. *See the patient in a quiet, private place.*
 - b. *Avoid interruptions that could further confuse a patient.*
 - c. *Encourage the patient to talk.*
 - d. *Show your interest.*
 - e. *Listen for key words and phrases.*
6. What daily life situations may affect a person's mental health?
 - a. *Family problems*
 - b. *Work problems*
 - c. *Financial problems*
7. A patient has some vague complaints. You are having difficulty identifying any clues to the patient's problem. You suspect that the patient may be suffering from a mental health problem, but you are not sure. You do not find anything unusual when you examine the patient. What can you do to find out more about the patient's problem?

Ask the patient's permission to talk with a family member or friend about his problem.
8. You check a patient's general appearance early in the physical examination. During this part of the physical examination you may note some signs which might make you suspect a mental health or alcohol abuse problem. For each of the following, write a brief statement about what you should look for.

General Appearance

- a. The patient's level of consciousness

Note if the patient is conscious or unconscious. If he is unconscious, is he difficult to arouse?

- b. The neatness of the patient

Compare the patient's cleanliness, grooming, and dress to that of other people you see.

c. The patient's movements

Notice if the patient staggers or is unsteady on his feet. Check for paralysis of an arm or leg.

d. The color of the patient's eyes and skin

Check for yellow eyes and skin, indicating jaundice.

9. You should also observe a patient's behavior, emotional and mental state, and speech. During this part of the physical examination you may note some signs which might make you suspect a mental health or alcohol abuse problem. For each of the following, write a brief statement about what you should look for.

Behavior, Emotional and Mental State, and Speech:

a. The patient's behavior

Notice if the patient makes strange movements. Is he shaking? Check for abnormal posture. Notice if the patient appears to be restless or easily distracted.

b. The patient's emotional state

Note if the patient is unusually sad, fearful, loud, or aggressive. Note if he shows extreme anger or violence.

c. The patient's mental state

Note if the patient knows who he is, where he is, the day, and the time. Does he look lost? Find out if he can tell you simple facts and if he can talk about his problem in a sensible way. His responses to your questions may be slow and unclear.

d. The patient's speech and odor of his breath

Note if his speech is slurred and difficult to understand. Note if your questions confuse him. Check for the smell of alcohol on his breath.

10. TRUE (T) or FALSE (F)

- T An increase in a patient's pulse, blood pressure, and respiration can be caused by normal anxiety or by a severe form of anxiety which is a mental health problem.

Teaching Plan 17

Taking a Medical History of the Patient with a Mental Health or Alcohol Abuse Problem

OBJECTIVES	<ol style="list-style-type: none">1. Demonstrate how to take a medical history of the patient with a mental health or alcohol abuse problem.2. Record your findings on official forms.
METHODS	Self-instruction, discussion, practice interview
MATERIALS	Student Text – Unit 7, case studies 75 and 76, record forms
PREPARATION	<p>Remind students to read the case studies in Unit 8 of the Student Text and to review the history of mental health and alcohol abuse problems in Unit 7.</p> <p>Identify patients with mental health or alcohol abuse problems who are willing to come to your classroom.</p>

TIME: 1 hr

LEARNING ACTIVITIES

1. Demonstrate how to interview and examine a patient with a mental health or alcohol abuse problem.	15 min
2. Students practice taking medical histories from other members of their groups, using case studies 75 and 76 as a basis for role-play. After each interview, students evaluate one another.	25 min
If possible, bring patients into the classroom for students to interview and examine.	

	TIME
3. Discuss with students the importance of the medical history and its use in diagnosing diseases.	10 min
4. The students summarize what they learned during the session and comment on how they will use this knowledge in their work.	10 min

Teaching Plan 18

Interviewing and Examining Patients with Mental Health or Alcohol Abuse Problems; Clinical Practice

OBJECTIVES	<ol style="list-style-type: none">1. Interview a patient about his mental health or alcohol abuse problem.2. Examine a patient with a mental health or alcohol abuse problem.3. Record your findings on official forms.
METHODS	Clinical demonstration, clinical practice
MATERIALS	Medical history and physical examination skill checklists; record forms
PREPARATION	Arrange for students to spend two hours in a hospital ward or outpatient clinic with suitable supervision.

TIME: 1 hr

LEARNING ACTIVITIES

1. Demonstrate how to interview and examine a patient with a mental health or alcohol abuse problem.	15 min
2. Students interview and examine patients with mental health or alcohol abuse problems, using the medical history and physical examination skill checklists as a guide.	30 min
3. Students present their findings to the class. Comment on these findings and discuss with students the session's activities.	15 min

Teaching Plan 19

Diagnosing Mental Health and Alcohol Abuse Problems

OBJECTIVES	<ol style="list-style-type: none">1. Describe the signs and symptoms of: Acute confusion Anxiety Depression Acute alcohol intoxication Chronic alcoholism2. Demonstrate how to interview and examine patients and diagnose mental health and alcohol abuse problems.
METHODS	Self-instruction, discussion, small group work, instructor presentation, role-play
MATERIALS	Student Text - Unit 8, medical history skill checklist
PREPARATION	Prepare a brief presentation on the signs and symptoms of mental health and alcohol abuse problems.

TIME: 1 hr 5 min

LEARNING ACTIVITIES

- | | |
|---|--------|
| 1. Present and lead a discussion on the signs and symptoms of mental health and alcohol abuse problems. | 10 min |
| 2. Divide the class into groups of three. Assign each group a different mental health or alcohol abuse problem. Tell each group to:
Choose two members to role-play the patient and the health worker
Create a presenting complaint and medical | 10 min |

TIME

history information for the patient, using information from the text	
3. Groups create patient roles.	10 min
4. The health worker from one group interviews the patient from another group and diagnoses the problem. The other students watch this interaction, using the skill checklist as a guide to correct performance.	10 min
5. The full training group meets. Each small group discusses its findings and the interview process.	10 min
6. The students summarize what they learned during the session and how they will use this knowledge in their work.	10 min
7. Remind the students to review the student text information on patient care for mental health and alcohol abuse problems and to begin thinking about appropriate patient and family education approaches for these problems.	5 min

ANSWERS TO REVIEW QUESTIONS

Mental Health and Alcohol Abuse Problems

1. TRUE (T) or FALSE (F)

 T You cannot help a patient with chronic alcoholism unless he admits he has a problem and is willing to be helped.

 T Acute confusion can follow a high fever caused by typhoid fever, pneumonia, meningitis, or malaria.

2. A young man brings his wife to see you. She suddenly lost her ability to speak after her three-year-old child was killed in an accident two days ago. You note nothing during your interview of the husband to indicate that the woman has any medical reason for her problem. You cannot find anything physically wrong with the woman. What do you suspect her problem is?

Hysteria caused by the loss of her child

3. A patient who reports that he has been thinking about killing himself is suffering from a severe form of depression .

Teaching Plan 20

Treating and Caring for Patients with Mental Health or Alcohol Abuse Problems

- OBJECTIVES**
1. Describe how to treat and care for patients with mental health or alcohol abuse problems.
 2. Demonstrate how to teach patients and their families to care for mental health and alcohol abuse problems at home and to prevent them from becoming worse.

METHODS Self-instruction, instructor demonstration, small group work, student presentations, discussion

MATERIALS Student Text - Unit 8, case studies 75 and 76, Diagnostic and Patient Care Guides

PREPARATION Prepare case studies 75 and 76.

TIME: 1 hr

LEARNING ACTIVITIES

- | | |
|---|--------|
| 1. Divide the class into role-play groups. Assign one of the two case studies to each group. | 5 min |
| 2. Groups identify the mental health or alcohol abuse problem in their case study and outline the treatment and care procedures for this problem, using the Diagnostic and Patient Care Guides. | 15 min |
| 3. Groups present their case study findings and the treatment and care procedures to the rest of the class. Comment with students on each group presentation. | 15 min |

	TIME
4. Groups exchange case studies and treatment and care information. Each group then develops a patient or family education message about the mental health or alcohol abuse problem in the case study they now have.	10 min
5. Students present their patient and family education messages to the group with whom they exchanged case studies.	10 min
6. Discuss with students the session's activities. Ask the students to summarize what they learned and how it may be helpful in their work.	5 min

Case Study 75

Name of Patient:	Huntley, Martin
Sex:	Male
Date of Birth:	16 March 1940
Date of Visit:	6 December 1979
Vital Signs:	Temperature 37°C Pulse 78 Respirations 18 Blood pressure 120/85 Weight 70 kg
Presenting Complaint and Medical History:	<p>The patient has felt weak for the last three weeks. The weakness started gradually and has been getting worse. His appetite is poor and he has trouble sleeping. His legs get weak very easily. He has a strange, drifting feeling when he walks. He has had no cough, shortness of breath, or pain in his upper abdomen. He thinks that he has lost about 1.5 kg over the last month.</p> <p>Past medical history: The patient becomes upset very easily. He worries about his wife's heavy drinking. He has many debts.</p>
Physical Examination:	The patient looks depressed and very tired. His mucous membranes are pink and moist. His tonsils are not enlarged. His breath and heart sounds are normal. His abdomen is soft, and no organs can be felt. His movements are normal.
Diagnosis:	Depression
Patient Care:	<ol style="list-style-type: none">1. Explain to the patient that his weakness, loss of appetite, and trouble sleeping are all related to his feeling of sadness.2. Ask the patient to return regularly to see you. Give him an opportunity to share his concerns with you at these visits. Find out if you can

discuss his depression with other family members to obtain their support.

Diagnostic
Points:

1. Trouble sleeping
2. Poor appetite and weight loss
3. Feeling of drifting and poor concentration
4. Unhappy looking

Case Study 76

Name of Patient: Bornes, Delta
Sex: Female
Date of Birth: 8 December 1944
Date of Visit: 6 June 1979
Vital Signs: Temperature 36.8° C
 Pulse 88
 Respirations 18
 Blood pressure 114/72
 Weight 44 kg

Presenting Complaint and Medical History: The patient was working at her desk this afternoon when she suddenly felt her heart begin to pound. She could not catch her breath. The attack lasted about fifteen minutes. She became very frightened and thought that she was having a heart attack. Her father died of a heart attack last year.

Past medical history: She has never had an attack

like this before. However, she gets frequent headaches. She had an abortion three months ago.

Her appetite has been good, with no weight loss. She has no history of rheumatic fever or joint pains.

**Physical
Examination:**

The patient looks tense and frightened. Her mucous membranes are pink and moist. Her neck and chest are normal. Her abdomen is soft, and no organs can be felt. Her skin is not pale or jaundiced.

Diagnosis:

Acute anxiety

Patient Care:

1. Reassure the patient that you find no evidence of heart disease.
2. Suggest that the attack of heart pounding and shortness of breath means that she is anxious and tense. Discuss her feelings about her work and her recent abortion.
3. Invite the patient to return to talk with you again.

**Diagnostic
Points:**

1. Pounding of heart
2. Suddenly could not catch her breath
3. No signs of heart disease

Teaching Plan 21

Supporting the Person with a Chronic Illness

OBJECTIVES	<ol style="list-style-type: none">1. Explain why it is important that the person with a chronic illness gets support from the health worker, his family, and community members.2. List ways that the health worker, the family and the community may help support the person with a chronic illness.3. Outline the information that you would share with a chronically ill person, his family, and other community members. Outline how you would share this information.4. Demonstrate how to support chronically ill persons.
METHODS	Self-instruction, instructor presentation, discussion, small group work, group presentations
MATERIALS	Student Text – Unit 9
PREPARATION	<p>Remind the students to read Unit 9 and to answer the review questions. Ask them to come to class prepared to discuss the importance of supporting a chronically ill person. Prepare some brief remarks about this subject to open the session.</p> <p>Prepare a brief presentation on how a mid-level health worker can support a person with a particular chronic illness, such as diabetes. Include in your presentation the information about the illness that you would share with the ill person, his family, and community members. Explain ways of sharing this information. Describe other possible ways of sup-</p>

porting the person with a chronic illness. Present the material in outline form to serve as a model for the students' work in small groups.

TIME: 3 hrs

LEARNING ACTIVITIES

- | | |
|--|--------|
| 1. Introduce the session with some brief remarks about the importance of supporting a chronically ill person. | 10 min |
| 2. Make a presentation on how a mid-level health worker can support a person with a particular chronic illness. | 15 min |
| 3. Discuss with students the presentation and the importance of supporting chronically ill persons. | 20 min |
| 4. Divide the class into groups. Each group chooses a different chronic illness studied during this module. Each group develops an outline for a brief presentation to the class. The outline should include: <ul style="list-style-type: none"> a. The information about the illness that they would share with the ill person, his family, and the community b. How they would share this information c. Other possible ways of supporting the person with this illness | 1 hr |
| 5. Each group presents its outline to the rest of the class. If possible, duplicate and distribute the outlines so that each student has an outline from each group to keep in his files. Follow each presentation with a brief discussion. | 1 hr |
| 6. Students summarize what they learned from the session's activities and how they will use this knowledge in their work. | 15 min |

ANSWERS TO REVIEW QUESTIONS

Supporting the Person with a Chronic Illness

1. Describe some things that the person with a chronic illness can and must do for himself during his illness.

The person with a chronic illness can learn to give himself the regular medications he needs. The chronically ill person must change his diet and exercise habits as necessary. He should also learn about his illness and about what he can do to live comfortably despite the illness.

2. One way of supporting a person with a chronic illness is to share information with him and his family. What should this information include?

This information should include an explanation of the illness and its effect on the body. It should include the role of medications in the control or cure of the illness and any necessary diet and exercise habit changes. The information should explain how to recognize signs that the ill person is getting better, staying the same, or getting worse. It should teach the ill person how he can live as comfortably as possible despite his illness.

3. Describe some of the other ways that you can help the person with a chronic illness to learn about his illness and about ways to take care of himself.
 - a. *Stay in contact with the ill person and his family. Encourage and reinforce his good health habits.*
 - b. *Show your concern. Make home or work visits to the ill person and his family.*
 - c. *Ask a community member with a chronic illness to talk to a person with a similar problem. Together they can discuss how they feel and how they can best cope with their illnesses.*
 - d. *Encourage the support of the ill person's family and community. Work with family and community members to make them aware of the importance of support for the ill person.*

4. TRUE (T) or FALSE (F)

F One of your main objectives in supporting the chronically ill person should be to make sure the ill person sees you every other day for medications, education, and treatment.

5. Summarize what a person with a chronic illness needs.

- a. *Medications and other treatment*
- b. *Information about how he can care for himself in order to control or cure his illness*
- c. *Regular support and care from the health worker, his family, and his community*

Teaching Plan 22

Assessing and Caring for Patients with Other Common Problems; Skill Development

OBJECTIVES	<ol style="list-style-type: none">1. Interview and examine patients with other common problems.2. Recognize and record the signs and symptoms of other common problems.3. Advise patients and family members about the prevention and home care of other common problems.4. Present health messages about supporting the person with a chronic illness.
METHOD	Supervised clinical practice
MATERIALS	Skill checklists for medical history and physical examination, and supporting the person with a chronic illness; materials and skill checklist for teaching a patient how to give himself an insulin injection; evaluation records; Diagnostic and Patient Care Guides; Formulary
PREPARATION	<p>Arrange for student supervision during these skill development activities:</p> <p>One and one-half days of clinical practice in a hospital ward or outpatient clinic during the week of classroom instruction</p> <p>Two weeks of skill development practice in a hospital ward or outpatient clinic coordinated with skill practice opportunities for other clinical modules.</p>

TIME: 13.5 days

LEARNING ACTIVITIES

- | | |
|--|----------|
| 1. Give student groups one and one-half days to practice:

Interviewing, examining, and caring for patients with other common problems

Delivering health messages about the prevention and home care of other common problems, and about supporting the person with a chronic illness | 1.5 days |
| 2. Students practice interviewing, examining, and caring for patients, and delivering health messages in a clinic or hospital ward for two weeks. The two weeks of skill development for the Other Common Problems module coincides with skill development practice for other clinical modules. | 12 days |

Teaching Plan 23

Caring for Patients with Other Common Problems; Clinical Rotation

- OBJECTIVES**
1. Diagnose the other common problems described in this module with the help of the Diagnostic Guides.
 2. Properly record information about medical history, physical examination, and patient care.
 3. Provide correct patient care, using the treatments described in this module and in the Patient Care Guides.
 4. Advise patients about the home care and prevention of other common problems.

METHOD Supervised clinical practice

MATERIALS Skill checklists for medical history, physical examination, teaching a patient how to give himself an insulin injection, and supporting the person with a chronic illness; Diagnostic and Patient Care Guides, Patient Care Procedures, Formulary

PREPARATION See Student Guide – Unit 11, for entry level skills and knowledge.

Since this activity will occur with other clinical rotations, you will probably be placing two or three students in the clinic during any given month. Arrange for supervision during this activity.

TIME: 1 month

LEARNING ACTIVITIES

1. Students take medical histories and perform physical examinations.

TIME

- | | |
|--|--|
| <ol style="list-style-type: none">2. Students diagnose other common problems.3. Students present health messages to individual patients, groups of patients, or family members of patients.4. All students are evaluated at least twice on all the above activities. | |
|--|--|

Teaching Plan 24

Helping a Community to Prevent and Care for Other Common Problems; Community Phase

OBJECTIVES	<ol style="list-style-type: none">1. Provide clinical services to patients with other common problems.2. Identify people in the community with other common problems and plan a program to prevent the problems from occurring again and spreading.3. Advise the community about its role in preventing other common problems.4. Discuss with community members how they can support a person with a chronic illness.5. Identify other members of the health team who can help in the prevention of other common problems and in the support of the person with a chronic illness.
METHODS	Practice providing patient care and assessing the community
MATERIALS	Log book, reference materials
PREPARATION	See Student Guide – Unit 12, for entry level skills and knowledge. See Community Phase Manual for details on organization and supervision of community practice

TIME: 3 months

LEARNING ACTIVITIES

1. Students provide clinical services for common medical and mental health problems.

TIME

2. Students assess the number and types of other common problems found in the community. They identify any local customs that increase or decrease the occurrence of other common problems. They record their findings in a written report.
3. Students plan activities that will help the community reduce the occurrence of other common problems.
4. Students hold meetings with community members to discuss attitudes towards people with chronic illnesses and how community members can best support the person with a chronic illness.
5. Evaluate student performance in the community.

TRAUMA AND EMERGENCY

The MEDEX Primary Health Care Series

TRAUMA AND EMERGENCY

Instructor's Manual

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SCHEDULE

Trauma and Emergency

DAY 1	DAY 2	DAY 3	DAY 4
<p>Introduction to Trauma and Emergency</p> <p>Pretest</p> <p>Teaching Plan 1: Assessing a Patient in a Life-Threatening Medical Emergency</p>	<p>Teaching Plan 3: Diagnosing Shock and Unconsciousness</p> <p>Teaching Plan 4: Treating and Caring for Patients Suffering Shock or Unconsciousness</p>	<p>Teaching Plan 5: Diagnosing a Blocked Airway, Acute Respiratory Failure, Snake Bite, and Poisoning</p> <p>Teaching Plan 6: Treating and Caring for Patients with a Blocked Airway, Acute Respiratory Failure, Snake Bite, or Poisoning</p>	<p>Teaching Plan 7: Recognizing the Signs of Trauma</p> <p>Teaching Plan 8: Taking the Medical History and Performing a Physical Examination of a Patient Who Has Suffered Trauma to the Body</p>
<p>Teaching Plan 2: Taking the Medical History and Performing a Physical Examination of a Patient in a Life-threatening Medical Emergency</p>			

DAY 5	DAY 6	DAY 7	DAY 8
Teaching Plan 9: Diagnosing Severe Bleeding and Lacerations	Teaching Plan 11: Diagnosing Fractures, Sprains, Dislocations, and Burns	Teaching Plan 12: Treating and Caring for Patients with Fractures, Sprains, Dislocations, or Burns	Teaching Plan 14: Treating and Caring for Patients with Trauma to the Eye, Head, Spinal Column, Chest, or Abdomen
Teaching Plan 10: Treating and Caring for Patients with Bleeding and Lacerations	Teaching Plan 12: Treating and Caring for Patients with Fractures, Sprains, Dislocations, or Burns	Teaching Plan 13: Diagnosing Trauma to the Eye, Head, Spinal Column, Chest, and Abdomen	Teaching Plan 15: Sharing Ideas with Patients and a Community on the Prevention of Accidents

DAY 9	DAY 10	DAY 11	DAY 12
<p>Teaching Plan 16: Assessing and Caring for Patients in Traumas and Emergencies; Clinical Practice</p> <p>Group A: Interviewing and Examining Patients</p> <p>Group B: Providing Patient Care</p> <p>Group C: Sharing Health Messages</p>	<p>Teaching Plan 16: Assessing and Caring for Patients in Trauma and Emergencies; Clinical Practice</p> <p>Group A: Providing Patient Care</p> <p>Group B: Sharing Health Messages</p> <p>Group C: Interviewing and Examining Patients</p>	<p>Teaching Plan 16: Assessing and Caring for Patients in Trauma and Emergencies; Clinical Practice</p> <p>Group A: Sharing Health Messages</p> <p>Group B: Interviewing and Examining Patients</p> <p>Group C: Providing Patient Care</p>	<p>Teaching Plan 16: Assessing and Caring for Patients in Trauma and Emergencies; Clinical Practice</p> <p>Group A: Interviewing and Examining Patients</p> <p>Group B: Providing Patient Care</p> <p>Group C: Sharing Health Messages</p>
<p>Teaching Plan 16: Assessing and Caring for Patients in Trauma and Emergencies; Clinical Practice</p> <p>Group A: Interviewing and Examining Patients</p> <p>Group B: Providing Patient Care</p> <p>Group C: Sharing Health Messages</p>	<p>Teaching Plan 16: Assessing and Caring for Patients in Trauma and Emergencies; Clinical Practice</p> <p>Group A: Providing Patient Care</p> <p>Group B: Sharing Health Messages</p> <p>Group C: Interviewing and Examining Patients</p>	<p>Teaching Plan 16: Assessing and Caring for Patients in Trauma and Emergencies; Clinical Practice</p> <p>Group A: Sharing Health Messages</p> <p>Group B: Interviewing and Examining Patients</p> <p>Group C: Providing Patient Care</p>	<p>Posttest</p>

Clinical rotation: one week - Teaching Plan 17

Teaching Plan 1

Assessing a Patient in a Life-Threatening Medical Emergency

OBJECTIVES

1. Describe these signs of a life-threatening medical emergency:
 - Gagging
 - Absence of respiratory effort
 - Cyanosis
 - Anxiety and restlessness
 - Cold and clammy skin
 - Pallor
 - Rapid and weak pulse
 - Low blood pressure
 - Rapid and shallow breathing
 - Decrease in urine output
 - Large, red welts on the skin
 - Wheezing
 - Decreased consciousness
 - Dilated, pinpoint, or unequally sized pupils
and the abnormal reaction of pupils to light
 - Neck stiffness in an unconscious patient
 - Tenting of the skin in an unconscious patient
 - Bulging fontanelle in an unconscious patient
 - Convulsions in an unconscious patient
 - Black-and-blue skin around a bite
 - Drooping eyelids and slurred speech
 - Bleeding from the gums and mouth
 - Burns around the mouth
 - Sweating and drooling
 - Slow and shallow breathing
 - Unusual odor on a patient's breath
2. Recognize the signs of a life-threatening medical emergency.

METHODS	Self-instruction, discussion, small group work, informal question and answer session
MATERIALS	Student Text – Unit 1
PREPARATION	<p>Put together any pictures, drawings, photographs or other visual aids that will help students recognize the signs of a life-threatening emergency. Complete your analysis of pretest results. Assign students into groups of three or four. Arrange each group so that students with high pretest scores are with students with low pretest scores.</p> <p>Tell students to review the anatomy and physiology of the cardiovascular system, central nervous system, and the respiratory system, and to review the Medical History and Physical Examination modules. Tell the students to read Unit 1 and answer the review questions.</p> <p>During the two weeks of classroom work, students should have an opportunity to observe emergencies and traumas that are handled in a hospital emergency room or health center. Arrange for four to five students to be on call in a hospital emergency room or health center for two to three hours in the evening. Arrange the groups so that each student has at least two opportunities to be on call during the two weeks. Also arrange for supervision.</p>

TIME: 3 hrs 35 min

LEARNING ACTIVITIES	
1. Introduce and explain the Task Analysis Table.	30 min
2. Discuss with the students the meaning of a life-threatening emergency and the physical signs associated with such an emergency.	1 hr 30 min
3. In their working groups, students develop ten questions about signs of a life-threatening medical emergency. They will use these questions to quiz another working group. Encourage students to make their questions difficult.	30 min

TIME

- | | |
|--|--------|
| 4. Working groups pair up and alternate asking each other their ten questions. The working group with the most correct answers wins a favor from the other working group. If the class has an odd number of working groups, divide one working group among the remaining groups. | 45 min |
| 5. Discuss with students any questions about their work in small groups or answers to the review questions. | 10 min |
| 6. Ask students to summarize what they learned during the session and how it will help them recognize signs of life-threatening medical emergencies. | 10 min |

ANSWERS TO REVIEW QUESTIONS

Assessing a Patient in a Life-Threatening Medical Emergency

1. TRUE (T) or FALSE (F)

F Shock cannot develop without loss of fluid from the body.

T The narrowing of blood vessels in shock makes skin cold and clammy.

F Shock does not reduce a person's output of urine.

T Anxiety and restlessness are early signs of shock.

2. What can the size of an unconscious patient's pupils tell you about the patient's condition?

Dilated pupils are a sign of coma.

Pinpoint pupils are a sign of damage to some parts of the brain and drug poisoning.

Unequal pupils are a sign of an injury to one side of the brain.

3. List four signs of shock.

a. Cold clammy skin with pallor

b. Rapid weak pulse

c. Falling blood pressure

d. Rapid shallow breathing

4. List three signs that indicate a person is having trouble breathing.

a. Gagging

b. Absence of respiratory effort

c. Cyanosis

5. Explain how a blocked airway or respiratory failure causes cyanosis.

When the person cannot breathe, no oxygen enters his lungs. As a result, the

person's blood does not receive enough oxygen. The blood turns dark red. The dark red blood looks blue through the skin.

6. List three signs of snake bite.

- a Black-and-blue skin around the bite*
- b Droopy eyelids and slurred speech*
- c Bleeding from gums and mouth*

7. Match the diagnostic signs in the first column with the problems listed in the second column.

- | | |
|---|------------------------------|
| <u> D </u> Convulsions | A. Blocked airway |
| <u> D </u> Drooling and sweating | B. Acute respiratory failure |
| <u> D </u> Slow and shallow breathing | C. Snake bite |
| <u> A </u> Gagging | D. Poisoning |
| <u> C </u> Drooping eyelids | |
| <u>A or B</u> Cyanosis | |
| <u> B </u> Absence of respiratory effort | |
| <u> C </u> Black-and-blue skin around a bite | |
| <u> D </u> Pinpoint pupils | |
| <u> C </u> Bleeding from gums and mouth | |
| <u> D </u> Unusual odor on a patient's breath | |
| <u> D </u> Burns around the mouth | |

Teaching Plan 2

Taking the Medical History and Performing a Physical Examination of a Patient in a Life-Threatening Medical Emergency

OBJECTIVES	<ol style="list-style-type: none">1. Demonstrate how to take the medical history and perform a physical examination for a patient in an emergency.2. Demonstrate how to record the findings of this interview and physical examination.
METHODS	Self-instruction, discussion, role-play, practice interview, and physical examination
MATERIALS	Student Text – Unit 1; case studies 77 and 80 from Student Text, Unit 2
PREPARATION	Remind students to read the two case studies in the Student Text and review the history and physical examination procedures discussed in Unit 1. Prepare questions and important points about history taking.

TIME: 3 hrs

LEARNING ACTIVITIES

1. Discuss with the students the importance of history taking, its use in diagnosing an immediate problem, and quickly taking the necessary action to treat the problem. Emphasize the importance of stabilizing a patient's condition before taking a medical history and using the recording forms.	45 min
2. Demonstrate and discuss how to take a medical history and perform a physical examination of a	45 min

	TIME
patient in a life-threatening medical emergency. Also demonstrate how to record the findings.	
3. Tell students to select a partner. Using information given in case studies 77 and 80, each pair of students practices taking medical histories and performing physical examinations. Stress the importance of quickly assessing a patient and attending to life-threatening conditions first.	1 hr
4. Briefly discuss any questions or concerns the students may have.	15 min
5. Students summarize what they learned during the session and comment on how it may be used in their work. Remind the first group of students about being on call at a hospital emergency room or health center this evening.	15 min

Teaching Plan 3

Diagnosing Shock and Unconsciousness

OBJECTIVES	<ol style="list-style-type: none">1. Describe the signs of shock and unconsciousness.2. Demonstrate how to interview a patient or his relative to diagnose shock and unconsciousness.
METHODS	Self-instruction, discussion, small group work, instructor presentation, role-play
MATERIALS	Student Text- Unit 2
PREPARATION	Prepare a brief presentation on the signs of shock and unconsciousness

TIME: 3 hrs 15 min

LEARNING ACTIVITIES

1. Ask the students who were on call at a hospital emergency room or health center the previous evening to report on what they observed.	15 min
2. Present and lead a discussion on the signs of shock and unconsciousness. Use the review questions to stimulate discussion.	30 min
3. Divide the class into teams. Assign each team a different problem leading to shock or unconsciousness. First tell these teams to choose two members to role-play the patient and health worker. Then tell the teams to create a presenting complaint and historical information for the patient, using information from the text.	5 min
4. Teams work on creating patient roles.	40 min

	TIME
5. Next, the health worker from one team interviews the patient from the other team, and diagnoses the emergency condition. Other students watch.	15 min
6. After the first role-play exercise, the teams switch roles and carry out another interview.	15 min
7. Each group discusses its findings and interview with the class.	40 min
8. The students summarize what they have learned during the session and how it could be applied in their work.	30 min
9. Remind students to review the Student Text information on patient care for shock and unconsciousness.	5 min

ANSWERS TO REVIEW QUESTIONS

Shock and Unconsciousness

1. Explain why severe bleeding causes shock.

Bleeding reduces the total volume of the circulatory system. The vital organs do not receive enough oxygen to carry on their normal activities.

2. What is the most common cause of shock?

Severe bleeding

3. Match the causes of shock with the explanations of why shock occurs.

<u>B</u> Bleeding	A. Loss of fluid from the body
<u>A</u> Diarrhea and vomiting	B. Sudden decrease in blood volume
<u>A</u> Burn	C. Blood vessels dilate
<u>C</u> Infection following childbirth	
<u>C</u> Reaction to drugs, chemicals, or insect stings	

4. Match the causes of shock with the type of shock that occurs.

<u>C</u> Drug reaction	A. Shock from decreased blood volume
<u>B</u> Septic abortion	B. Septic shock
<u>A</u> Severe diarrhea	C. Anaphylactic shock
<u>C</u> Insect sting	D. Shock from heart failure
<u>A</u> Laceration and bleeding	
<u>A</u> Internal injury with bleeding	
<u>B</u> Severe urinary tract infection	

- D Damage to the heart muscle
- A Burns to more than ten percent of the body
- B Infection following childbirth

5. State the clinical signs of shock.

- a. Adult's pulse: *Greater than 90 beats per minute*
- b. Child's pulse: *Greater than 100 beats per minute*
- c. Adult's blood pressure: *Less than 90/60*
- d. Skin: *Pale, cold and clammy*
- e. State of consciousness: *May not respond to hearing his name, to being shaken, or to pain*
- f. Urine output: *Diminished or absent*

6. List six steps you should take before you treat a patient for shock.

- a. *Clear the patient's airway.*
- b. *Start mouth-to-mouth respiration if the patient is not breathing.*
- c. *Stop any severe bleeding.*
- d. *Prevent movement of any large bone or spinal fracture.*
- e. *Keep the patient warm.*
- f. *Raise the prone patient's feet and legs about twelve inches above his head.*

7. Describe the emergency care of a patient in shock.

- a. *Start an IV infusion with normal saline or Ringer's lactate.*
- b. *Monitor the patient's pulse and blood pressure at regular intervals.*
- c. *Transport the patient to the hospital as soon as possible.*

8. List the steps you would take when a patient develops an anaphylactic reaction.

- a. *Give .5 cc epinephrine 1:1000 SC.*
- b. *If signs worsen, repeat the dosage every ten to twenty minutes.*

9. Write what antibiotics in what dosages you would use to treat septic shock.

- a Penicillin 1,000,000 units IV every four hours*
- b Streptomycin .5 g IM every twelve hours*

10. TRUE (T) or FALSE (F)

- T An open airway is of primary importance in all unconscious patients.
- T Dehydration can lead to unconsciousness.
- F Fainting is the least common cause of unconsciousness.
- F Severe poisoning does not cause loss of consciousness.
- T Diabetes can cause unconsciousness.
- F Stroke does not cause the patient to lose consciousness.

11. Explain why a person faints.

His blood pressure drops suddenly. His brain does not get the oxygen it needs to function properly.

12. List eight causes of unconsciousness.

- | | |
|------------------------------------|---------------------------|
| <i>a Severe head trauma</i> | <i>e Meningitis</i> |
| <i>b Stroke</i> | <i>f Cerebral malaria</i> |
| <i>c Complications of diabetes</i> | <i>g Epilepsy</i> |
| <i>d Poisoning</i> | <i>h Alcohol</i> |

13. Arrange these steps for assessing an unconscious patient in the correct order.

- j Look for signs of bleeding*
- k Examine the airway and breathing*
- l Observe the respiration*
- c Examine the pulse*
- g Obtain relevant history*
- h Examine the skin*
- a Examine the pupils*
- f Determine the level of consciousness*

- b. Check for major trauma to other parts of the body*
- i. Examine the neck*
- d. Look for paralysis or weakness*
- e. Record your findings*

14. Why is an unconscious patient placed in a recovery position?

To prevent him from inhaling his vomit and choking on it.

15. When would you not place an unconscious patient in the recovery position?

When you suspect the patient's neck or spinal column is injured.

Teaching Plan 4

Treating and Caring for Patients Suffering Shock or Unconsciousness

OBJECTIVES	<ol style="list-style-type: none">1. Describe the treatment and care of a patient suffering from shock and unconsciousness2. Demonstrate how to start an intravenous infusion in a peripheral vein.3. Demonstrate how to place an unconscious patient in the recovery position.
METHODS	Self-instruction, demonstration by instructor, group work, presentations, and discussions
MATERIALS	Student Text – Unit 2; case studies; materials for demonstrating an intravenous infusion
PREPARATION	Prepare case studies 77, 78, 79 and 80. Prepare material and demonstrate how to start an IV infusion in a peripheral vein.

TIME: 3 hrs

LEARNING ACTIVITIES

1. Divide the class into working groups. Give each group a case study that deals with shock or unconsciousness.	10 min
2. Each group identifies the cause of either shock or unconsciousness in its case study and outlines the treatment and care procedures using Diagnostic and Patient Care Guides.	20 min
3. Each group presents its case study findings and treatment and care procedures to the rest of the class. Comment with students on each group's presentation.	30 min

	TIME
4. Discuss and demonstrate procedures for starting an IV infusion in a peripheral vein	30 min
5. In small groups, practice starting an IV infusion in a peripheral vein. If this is not possible or practical, arrange a demonstration for students.	45 min
6. Discuss and demonstrate the procedure for placing an unconscious patient in the recovery position. Emphasize that under conditions such as fracture of the neck and spine a patient should not be moved.	10 min
7. In role-play, students practice placing a fellow student in the recovery position.	20 min
8. Discuss with students the session's activities and have them summarize what was learned and how it may help them in their work. Remind students to read Unit 3 of the Student Text. Also remind the second group of students about being on call this evening in a hospital emergency room or health center.	15 min

Case Study 77

Name of Patient: Das, Bhagirath
Sex: Male
Date of Birth: 16 February 1948
Date of Visit: 25 May 1980
Urine: Dark yellow, small volume
Vital Signs: Temperature 38° C
Pulse 120
Respirations 32
Blood pressure 80/60
Weight 65 kg

Presenting Complaint and Medical History: The patient had severe abdominal pain in the upper part of his abdomen below the sternum about six hours ago. Following this pain, he vomited reddish brown material twice. The pain has become worse. He cannot move. He is dizzy, anxious, and restless. He is thirsty. He feels he will die. He has some difficulty breathing. He has had gnawing, aching, and burning sensations in his abdomen at times for five years. The pain used to come thirty to sixty minutes after eating. The patient says he has passed tar-like stools during the last two to three days. He has never had this complaint before. He says that he had spicy food about an hour before the pain started.

Physical Examination: The patient is anxious and restless. He is in pain. He lies without moving. He is not in a coma. He breathes rapidly, taking shallow breaths. His skin is cold and clammy. Pallor is present. His eyes are dull but the pupils are not dilated. Signs of muscle guarding and rebound tenderness occur on palpation of the abdomen. No abdominal percussion note can be heard. His bowel sounds are normal. His abdomen is not swollen. No signs of trauma are present.

Diagnosis: Shock caused by blood loss.

- Patient Care:
1. Start IV infusion into a peripheral vein using a normal saline.
 2. Monitor the pulse and blood pressure every fifteen minutes.
 3. Transport the patient to a hospital as soon as possible.
 4. While transporting the patient, keep his feet and legs elevated. Keep the patient warm.
 5. Continue IV infusion during the transportation.

Diagnostic Points:

1. Feels anxious and feels he will die
2. Feels thirsty
3. Has trouble breathing
4. Had severe abdominal pain in the upper abdomen
5. Vomited reddish brown material
6. Passed tar-like stools in the last two to three days
7. Lies without moving to avoid pain
8. Skin is cold and clammy
9. Pallor present
10. Muscle guarding and rebound tenderness
11. No signs of trauma to the abdomen

Case Study 78

Name of Patient: Bhalla, Ramtivath
Sex: Male
Date of Birth: 16 May 1960
Date of Visit: 20 August 1980
Urine: Dark yellow, small volume

Vital Signs: Temperature 39°C
 Pulse 120
 Respirations 36
 Blood pressure 70/50
 Weight 58 kg

Presenting Complaint and Medical History: The patient was brought into the health center on a stretcher. He says he cannot stand without feeling dizzy. He has had twenty loose stools in the past two hours and has vomited five times. He has trouble breathing. He feels faint. He feels no pain in his abdomen or any part of the body. He feels thirsty. He remembers drinking some water from an unfamiliar well a day ago. He noticed some unpleasant feelings in his stomach then. Later he passed a watery stool with no mucus or blood in it. He started feeling nauseous and later vomited. After passing some stool, he started feeling weak and dizzy. Later he could not stand up. He felt very thirsty. The patient has never had this problem before.

Physical Examination: The patient looks sick. He is not in pain but is restless and anxious. His skin is cold and clammy. His mucous membranes are pale. His breathing is shallow and rapid. Tenting of his skin occurs. His eyes are dull and sunken. His lips are dry. His heart sounds are normal. His chest is clear. No signs of tenderness were noted on palpating his abdomen. No enlarged organs were felt.

Diagnosis: Shock caused by vomiting and diarrhea

- Patient Care:
1. Start IV infusion into a peripheral vein using Ringer's lactate.
 2. Monitor the pulse and blood pressure every fifteen minutes.
 3. Place the patient so his legs and feet are elevated.
 4. Give the patient 250 mg of ampicillin every four hours for five days.
- Diagnostic Points:
1. Had twenty loose stools in the last two hours
 2. Vomited five times
 3. Drank some water the previous day
 4. Restless, anxious, and thirsty
 5. Feels faint and has difficulty breathing
 6. Skin is cold and clammy
 7. Shallow and rapid breathing
 8. Tenting of the skin
 9. Eyes dull and sunken
 10. Lips dry

Case Study 79

Name of Patient: Tripathi, Radha
Sex: Female
Date of Birth: 30 June 1972
Date of Visit: 30 September 1980
Vital Signs: Temperature 39°C
Pulse 118
Respirations 26
Weight 22 kg

Presenting Complaint and Medical History:	<p>The patient is unconscious. She does not respond to her name or to being shaken. She has a fever.</p> <p>The patient's mother says her daughter has had an upper respiratory tract infection and fever. The girl recently became irritable. She started having severe headaches and convulsions. She says her neck hurts when she bends it. She began to act confused. She went to sleep about six hours ago after having a convulsion and now will not wake up. She has never had this problem before. She has not injured her head. She has not consumed any poison. Her relatives have never had this problem.</p>
Physical Examination:	<p>The girl does not respond to her name or to being shaken. She does respond to strong pain. She has no trouble breathing. She is not bleeding. Her pupils are equal and they react to light but are dilated. Her neck is stiff. On bending her neck, she draws her legs to her chest. She has no signs of any injury to the head or body. Her heart is normal. Her chest is clear. No enlarged organs were felt in her abdomen.</p>
Diagnosis:	<p>Unconsciousness caused by meningitis</p>
Patient Care:	<ol style="list-style-type: none">1. Ensure that the airway is clear and the patient is breathing.2. Start an IV with Ringer's lactate.3. Give the child 1100 mg of ampicillin in divided doses: 275 mg IV every four hours.4. Immediately transfer the patient to a hospital.
Diagnostic Points:	<ol style="list-style-type: none">1. History of upper respiratory infection leading to headache2. Not responding to her name or shaking3. Convulsions4. Pain when she bends her neck5. Felt very sleepy6. No history of injury to the head7. Did not consume any poison8. Responds to strong pain

9. Pupils are equal and react to light but are dilated
10. When the patient's neck is bent, she draws her legs to her chest

Case Study 80

Name of Patient: Bedi, Madhusudan

Sex: Male

Date of Birth: 7 January 1954

Date of Visit: 30 June 1980

Vital Signs:

Temperature	40° C
Pulse	112
Respirations	16
Blood pressure	110/80
Weight	65 kg

Presenting Complaint and Medical History: The patient is unconscious. He will not respond to his name, to shaking, or to strong pain.

A relative says the patient began having fevers about three days ago. His temperature would rise and fall. He would feel cold, then he would start sweating. About four hours ago, he developed a sudden headache. He became confused. He started having convulsions, then he fell unconscious. The patient has had fevers in the past, but never any convulsions. He has not injured his head. He has no recent history of any infection. His family has no history of convulsions.

Physical Examination: The patient does not respond to his name, to shaking, or to strong pain. He is pale. He has no edema. His chest is clear. His heart sounds normal. His abdomen is flat and not tender. His spleen is palpable.

- Diagnosis: Unconsciousness probably caused by cerebral malaria
- Patient Care:
1. Ensure that the airway is clear and that the patient is breathing.
 2. Sponge the body and the head to bring down the fever.
 3. Start treatment for shock by giving an IV infusion with normal saline.
 4. Give 600 mg quinine hydrochloride IV in 300 ml normal saline, slowly over one hour.
 5. Transfer the patient to the hospital as rapidly as possible.
- Diagnostic Points:
1. History of fever with hot and cold stages
 2. Development of sudden headache and confusion
 3. Developed convulsions
 4. Cannot be awakened
 5. Does not respond to name, shaking, and light or strong pain
 6. Pale
 7. Spleen palpable

Teaching Plan 5

Diagnosing a Blocked Airway, Acute Respiratory Failure, Snake Bite, and Poisoning

OBJECTIVES	<ol style="list-style-type: none">1. Describe the signs and symptoms of: A blocked airway Acute respiratory failure Snake bite Poisoning2. Demonstrate how to interview patients or their relatives and diagnose a blocked airway, acute respiratory failure, snake bite, and poisoning.
METHODS	Self-instruction, discussion, small group work, instructor's presentation, role-play
MATERIALS	Student Text - Unit 3
PREPARATION	Prepare a brief presentation on the symptoms and signs of a blocked airway, acute respiratory failure, snake bite, and poisoning.

TIME: 3 hrs 40 min

LEARNING ACTIVITIES

1. Ask the students who were on call at a hospital emergency room or health center the previous evening to comment on what they observed.	15 min
2. Discuss the symptoms and signs of a blocked airway, acute respiratory failure, snake bite, and poisoning. Use the review questions to stimulate discussion.	1 hr
3. Divide the class into four teams. Assign each team one of the conditions described in Unit 3. First,	10 min

TIME

tell the teams to choose two members to role-play the patient and health worker. Then tell the teams to use information from the text to create a presenting complaint and historical information for the patient.	
4. Teams work on creating roles for a patient or patient's relative.	30 min
5. Next, the teams pair up. The health worker from one team interviews the patient or patient's relative from the other team, and diagnoses the emergency condition. Other students watch.	20 min
6. After the first role-play, the teams switch roles and carry out another interview.	20 min
7. Each group discusses its findings and interview process with the class.	45 min
8. The students summarize what they have learned during the session and how it could be applied to their work.	15 min
9. Remind students to review the Student Text information on patient care for a blocked airway, acute respiratory failure, snake bite, and poisoning.	5 min

ANSWERS TO REVIEW QUESTIONS

Blocked Airway, Acute Respiratory Failure, Snake Bite, and Poisoning

1. In the space beside each problem, write the letter identifying the possible result of the problem.

PROBLEM	POSSIBLE RESULT OF THE PROBLEM
<u>D</u> A child inhales a foreign body	A. Oxygen does not reach the brain
<u>D</u> A person chokes on a piece of food	B. Tissues of the throat and epiglottis swell
<u>B</u> Trauma to the face or neck damages tissues	C. The person receives a shock and stops breathing
<u>D&A</u> Drowning	D. The airway becomes blocked
<u>E</u> Acute throat infection	E. A swollen membrane blocks the airway
<u>C</u> Electric shock	F. Gas prevents the blood from carrying oxygen
<u>B</u> Throat burns caused by hot gas and smoke	
<u>A</u> A person is caught in a tight enclosure	
<u>A</u> Shock caused by bleeding or head injury	
<u>F</u> Carbon monoxide poisoning	

2. Match each set of symptoms and signs with its possible cause.

SYMPTOMS	SIGNS	CAUSE
<u>B</u> Choking	The patient tries to breathe but his upper airway is blocked	A. Electrical shock

	SYMPTOMS	SIGNS	CAUSE
<u>D</u>	Patient pulled from water	Clothes wet, upper airway has water in it	B. Foreign body blocking the airway
<u>B</u>	Trauma to face and neck	The patient is making a respiratory effort but his upper airway is blocked	
<u>C</u>	Child has a fever and increasing trouble breathing	A membrane blocks the upper airway	C. Acute infection of the upper respiratory system
			D. Near drowning
<u>B</u>	Child inhaled a peanut or a raisin	The child is making a respiratory effort but his upper airway is blocked	E. Carbon monoxide poisoning
<u>A</u>	Patient touched an electric wire	His upper and lower airway are clear. He is not breathing	
<u>E</u>	Patient found in a closed room with a poorly burning fire	His upper and lower airway are clear. His lips and nail beds are blue	

3. Describe two signs of an acute respiratory problem.

- a. *The person may not be breathing at all.*
- b. *The person may be making respiratory effort but not moving any air.*

4. List five causes of acute respiratory failure.

- a. *Drowning*
- b. *Poisoning*
- c. *Electric shock*
- d. *Trauma to head and shock*
- e. *Lack of oxygen in the air*

5. What sign would indicate that body tissues are not receiving enough oxygen? Where would you look for this sign?

The sign is cyanosis. Look for cyanosis around the lips and the nail beds.

6. You see a person who is not breathing. His airway is clear. What would you do?

Perform mouth-to-mouth respiration

7. Describe the steps in performing mouth-to-mouth respiration on an adult.
- Place the person on his back on a flat surface. Kneel at his side near his head.*
 - Open his airway by tilting his head back and supporting his neck.*
 - Pinch his nose with your fingers.*
 - Open your mouth and take a deep breath.*
 - Seal your lips around the patient's mouth.*
 - Blow into the person's lungs until his chest rises.*
 - Continue the mouth-to-mouth respirations until the person is breathing again.*

8. Describe the effects of a snake bite near the wound and at distant parts of the body.

Effects near the wound: The snake bite causes severe pain and swelling near the bite. Bleeding discolors the skin.

Distant effects: The venom prevents clotting of the blood. Bleeding occurs at the gums and mouth. Blood may be seen in the urine. The patient may have trouble talking or swallowing. His eyelids will droop. He may have trouble breathing which may lead to respiratory failure and coma.

9. TRUE (T) or FALSE (F)

 F You do not need the description of a snake that bites a patient.

 F Snake bites are rarely fatal.

 F You should give a person bitten by a snake aspirin, alcohol, or sedatives.

 T Antivenin is most effective when it is given within a few hours of the bite.

 F You do not need to give tetanus toxoid to victims of snake bites.

10. What is a poison?

A poison is anything that can cause harm when it enters the body or when it comes in contact with the skin.

11. List three common causes of poisoning and the signs and symptoms of each.

*a. Petroleum products:**Petroleum smell**Fast pulse rate**Slow respirations**b. Insecticides:**Smell of poison on breath or clothing**Sweating and salivating**Respiratory distress**Convulsions**Pinpoint pupils**c. Acid or caustic poisons:**Burns around the lips and mouth**Rapid and shallow respirations**Pain in the chest and upper abdomen*

12. Match the items in the first column with those in the second column. Place the letter of your answer in the space provided.

 B Lye

A. Induce vomiting

 B Paraffin

B. Do not induce vomiting

 B Paint thinner A Insecticide B Kerosene B Lethargy or coma A Poisonous plants A Aspirin poisoning

13. TRUE (T) or FALSE (F)

 T Preventing poisoning is more important than curing it.

- F Keeping poisons in low cupboards is safe.
- T Throw out old medicines in a safe place.
- F Soda bottles are safe for storing kerosene.
- T Do not flush out the stomach of a patient who has swallowed an acid or burning poison.

14. A woman arrives at your clinic in a very drowsy condition. She responds to strong shaking. Her relative tells you that she found an empty bottle of sleeping pills on the table near the woman's bed. How will you manage the patient?
- a. Maintain a clear airway.*
 - b. Flush out her stomach.*
 - c. Start treatment for shock.*
 - d. Refer her to a hospital.*
15. A child has accidentally swallowed some lye. His lips and mouth are burned. He has severe pain in his upper abdominal area. How will you manage the patient?
- a. Do not induce vomiting.*
 - b. Do not flush out the stomach.*
 - c. Give the patient milk.*
 - d. Refer him to the hospital after starting treatment for shock.*

Teaching Plan 6

Treating and Caring for Patients with a Blocked Airway, Acute Respiratory Failure, Snake Bite, or Poisoning

OBJECTIVES	<ol style="list-style-type: none">1. Describe the treatment and care of patients suffering from a blocked airway, acute respiratory failure, snake bite, and poisoning.2. Demonstrate how to teach patient and their families about the prevention of blocked airways, acute respiratory failure, snake bite, and poisoning.3. Demonstrate how to relieve a blocked airway using back blows, manual thrusts, or your fingers.4. Discuss and demonstrate the procedure for mouth-to-mouth respiration.
METHODS	Self-instruction, demonstration, group work, presentations, discussions, and practice
MATERIALS	Student Text - Unit 4; case studies; Diagnostic and Patient Care Guides; manikin or doll that may be used to practice mouth-to-mouth respiration; skill checklists and materials for removing a foreign body from a person's throat with your fingers, using back blows to clear a child's blocked airway, using manual thrusts to clear an adult's blocked airway, and performing mouth-to-mouth respiration
PREPARATION	Prepare case studies 81 - 86.

TIME: 3 hrs 45 min

LEARNING ACTIVITIES

1. Divide the class into working groups. Distribute a different case study to each group.

10 min

	TIME
2. Each group identifies the emergency condition in its case study and outlines treatment and care procedures for the condition using the Diagnostic and Patient Care Guides.	20 min
3. Each group presents its case study findings and the treatment and care procedures to the rest of the class. Comment with the students on each group's presentations.	50 min
4. Groups exchange case studies and treatment and care information. Groups then design patient and family education messages about the emergency condition in their case study.	20 min
5. Students deliver patient and family education messages to the group with which they exchanged case studies.	15 min
6. Discuss and demonstrate these procedures for relieving a blocked airway: back blows, manual thrusts, and removing a foreign body from a person's throat with your fingers.	20 min
7. In small groups, students practice how to relieve a blocked airway. Students practice the procedures on each other using the skill checklists as a guide.	30 min
8. Discuss and demonstrate the procedures for mouth-to-mouth respiration.	15 min
9. Two students practice mouth-to-mouth respiration with each other if manikins are not available. They should use the skill checklist as a guide. Students should not actually try to blow air into another student's lungs. They can simulate this procedure by blowing air past the student's cheek.	30 min
10. Discuss with the students the session's activities and have them summarize what they learned and how it may help them in their work. Remind students to read Unit 4 in the Student Text. Also remind the third group of students to be on call in a hospital emergency room or health center this evening.	15 min

Case Study 81

Name of Patient:	Rai, Krishna
Sex:	Male
Date of Birth:	17 May 1956
Date of Visit:	27 August 1981
Vital Signs:	Temperature 37°C Pulse 58
Presenting Complaint and Medical History:	The patient was eating rice and fish when he suddenly choked. He started coughing and gasping.
Physical Examination:	The patient is weakly gasping. His lips and nail beds are blue. He is limp. He does not respond to strong pain. His pupils are dilated, but they react to light.
Diagnosis:	Blocked airway
Patient Care:	<ol style="list-style-type: none">1. Give back blows.2. If back blows do not succeed, perform manual thrusts.3. With your finger, try to remove the piece of fish lodged in the throat.4. If the patient stops breathing, perform mouth-to-mouth respiration.5. Transfer the patient to the hospital as soon as possible.
Diagnostic Points:	<ol style="list-style-type: none">1. Started coughing and gasping while eating food2. Lips and nail beds blue3. Does not respond to strong pain4. Pupils are dilated but react to light

Case Study 82

Name of Patient:	Singh, Rupinder
Sex:	Male
Date of Birth:	3 January 1976
Date of Visit:	9 November 1981
Vital Signs:	Temperature 36° C Pulse 80 Respirations absent
Presenting Complaint and Medical History:	The patient was helping his mother wash clothes in a pond. He slipped into the water. His mother pulled him from the water a few minutes later. He was not breathing. His mother said he will not respond to his name, to shaking, or to strong pain.
Physical Examination:	The small child is making no respiratory effort. His clothes are wet. His lips and nail beds are blue. He has no breath sounds.
Diagnosis:	Drowning
Patient Care:	Start and continue mouth-to-mouth respirations until the patient starts breathing on his own. Transfer the patient to a hospital.
Diagnostic Points:	<ol style="list-style-type: none">1. Patient's clothes wet2. Recovered from the pond3. Not making any respiratory effort4. Cyanosis5. Not responding to name, shaking, or strong pain6. No breath sounds on auscultation

Case Study 83

Name of Patient:	Bajaj, Prajapati
Sex:	Female
Date of Birth:	3 February 1959
Date of Visit:	7 August 1980
Vital Signs:	Temperature 37° C Pulse 90 Respirations 10 Blood pressure 80/60 Weight 50 kg
Presenting Complaint and Medical History:	A snake bit the patient on the left leg about two hours ago. She was walking through the bush just outside the village. She feels pain at the site of the bite. She feels weak and drowsy. She has trouble breathing. Her speech is slurred. She has a headache. She feels frightened.
Physical Examination:	The patient has two puncture wounds close to one another on the left leg. The area is swollen and tender. Her eyelids are droopy. Her breathing is slow. Saliva dribbles from her mouth. Her heart sounds are normal. Her chest is clear.
Diagnosis:	Snake bite
Patient Care:	<ol style="list-style-type: none">1. Calm and reassure the patient. Ask her to lie down.2. Apply a splint to the involved extremity to reduce movement.3. Keep the extremity low.4. Apply a tourniquet between the site of the bite and the heart.5. Check the pulse and skin temperature distal to the tourniquet every fifteen minutes.

Diagnostic
Points:

6. Transfer the patient to a hospital as soon as possible for antivenin and tetanus toxoid.
1. History of being bitten on the leg
2. Pain at the site of the bite
3. Excessive salivation
4. Difficulty in speaking and the speech slurred
5. Two puncture wounds on the leg close to one another
6. Swelling and tenderness around the bite
7. Eyelids droopy and muscles of the face paralyzed

 Case Study 84

Name of Patient:	Adebayo, Fred										
Sex:	Male										
Date of Birth:	17 August 1954										
Date of Visit:	9 July 1982										
Vital Signs:	<table> <tr> <td>Temperature</td><td>36° C</td></tr> <tr> <td>Pulse</td><td>60</td></tr> <tr> <td>Respirations</td><td>12</td></tr> <tr> <td>Blood pressure</td><td>110/80</td></tr> <tr> <td>Weight</td><td>60 kg</td></tr> </table>	Temperature	36° C	Pulse	60	Respirations	12	Blood pressure	110/80	Weight	60 kg
Temperature	36° C										
Pulse	60										
Respirations	12										
Blood pressure	110/80										
Weight	60 kg										
Presenting Complaint and Medical History:	<p>A relative reports that the patient drank liquid from an old medicine bottle. The patient's vision is blurred. He has a headache. He feels nauseous and has vomited. He has trouble breathing. He feels dizzy and is very anxious.</p> <p>Past medical history: He has not been taking any medicine or drugs. He was not sick in the last week.</p>										

Family History: No one in the family has had any similar complaints.

Physical
Examination:

The patient looks anxious. His respirations are slow. The pupils of his eyes are constricted but they react to light. He drools and sweats freely but has no fever. He has a strong odor on his breath. His heart sounds are normal.

Diagnosis:

Poisoning by insecticide

Patient Care:

1. Ensure that airway is clear and the patient is breathing.
2. Treat for shock with normal saline IV infusion.
3. Give a 2 mg IV injection of atropine until the signs of the poisoning are reduced or the patient's pupils dilate and he develops a very dry mouth.
4. Wash all insecticide off the skin and remove any contaminated clothes.
5. Transfer the patient to a hospital as soon as possible.

Diagnostic
Points:

1. History of drinking an unknown liquid
2. Blurred vision and headache
3. Difficulty in breathing
4. Pupils constricted
5. Drooling of saliva from the mouth
6. Profuse sweating but no fever
7. Peculiar odor on patient's breath

Case Study 85

Name of Patient:	Adegensis, Bimbo
Sex:	Female
Date of Birth:	16 May 1977
Date of Visit:	19 March 1980
Vital Signs:	Temperature 37° C Pulse 112 Respirations 20 Weight 18 kg
Presenting Complaint and Medical History:	<p>The child drank an unidentified liquid from a soda bottle about three hours ago. She found the bottle beneath the kitchen washstand. Her mother does not know its contents. The child has been vomiting. No blood was seen in the vomit. The child became drowsy. She does not respond to shaking. She responds to pain but falls back into unconsciousness.</p> <p>Past medical history: The child has not been taking any medicine. She was not bitten by any snake or animal. She did not have any head injury. She has not been sick recently.</p>
Physical Examination:	The small child does not respond to shaking. Her pupils are slightly dilated. They react to light. She takes slow, shallow breaths. She has a distinct odor on her breath but no burns around her mouth. She has some cyanosis. Her heart sounds are normal.
Diagnosis:	Poisoning by an unknown substance
Patient Care:	<ol style="list-style-type: none">1. Ensure that the patient's airway is clear and that she is breathing.2. Start treatment for shock with a normal saline IV infusion.3. Transfer the patient to the hospital as soon as possible.

Diagnostic
Points:

1. Drank some unidentified liquid in the kitchen from a soda bottle
2. Responds only to pain
3. Not bitten by snake or animal
4. Did not sustain any head injury
5. No history of upper respiratory tract infection
6. Slow, shallow breathing
7. Distinct odor on her breath
8. Patient has cyanosis

Case Study 86

Name of Patient: Kaur, Janaki

Sex: Female

Date of Birth: 17 April 1972

Date of Visit: 13 July 1979

Vital Signs: Temperature 37° C
 Pulse 138
 Respirations 28
 Weight 28 kg

Presenting Complaint and Medical History: The young patient has pain in her chest, upper abdomen, mouth, and throat. She has vomited blood. She drank from a bottle that contained a cleaning agent.

Past medical history: She has no history of fever, diarrhea, or infection.

**Physical
Examination:**

The girl is anxious and restless. Her respirations are rapid and shallow. She has burns around her lips. The mucous membranes in her mouth are white with red areas. Her heart sounds are normal. Her upper abdomen is very tender. She shows signs of muscle guarding.

Diagnosis:

Poisoning by a caustic substance

Patient Care:

1. Ensure that the patient's airway is clear and that she is breathing.
2. Start treatment for shock with a normal saline IV infusion.
3. Transfer the patient to a hospital as soon as possible.

**Diagnostic
Points:**

1. Pain in chest and upper abdomen following ingestion of liquid
2. Pain in the mouth and throat
3. Vomiting of blood
4. Drank from a bottle containing a cleaning agent
5. Shallow and rapid breathing
6. Burns around the lips
7. Tenderness in the upper abdomen with muscle guarding

Teaching Plan 7

Recognizing the Signs of Trauma

OBJECTIVES

1. Describe these signs of trauma:

- Spurting bright red blood
- Dark red blood
- Limited movement of a joint distal to a wound or bite
- Loss of sensation distal to a wound or bite
- Jagged cut
- Clean cut
- Puncture
- Deformity of a limb or joint
- Black-and-blue skin
- Reddened skin
- Oozing blisters
- White or charred skin
- Loss of vision
- Abnormal reaction of pupils to light
- Decreased consciousness
- Depression in the skull
- Watery discharge or blood from nose or ears
- Paralysis of arms or legs
- Absent or decreased breath sounds
- Frothy bubbles from a chest wound
- Collapse of the chest on breathing in
- Expansion of the chest on breathing out
- Rebound tenderness
- Muscle guarding
- Absence of bowel sounds

2. Recognize the signs of trauma to the body when you see or hear them in a patient.

METHODS

Self-instruction, discussion, small group work, informal question and answer session

MATERIALS Student Text - Unit 4

PREPARATION Prepare any pictures, drawings, photographs or other visual aids that will help students recognize the signs of trauma to the body

TIME: 3 hrs 25 min

LEARNING ACTIVITIES

- | | |
|--|-------------|
| 1. Ask the group of students who were on call the previous evening to comment on what they observed. | 15 min |
| 2. Discuss with the students the abnormal physical signs associated with trauma. | 1 hr 30 min |
| 3. In their working groups, students develop ten questions about the signs of trauma. They will use these questions to quiz another working group. Encourage the students to make their questions difficult. | 30 min |
| 4. Working groups pair up and alternate asking each other their ten questions. The working group with the most correct answers wins a favor from the other working group. If the class has an odd number of working groups, divide one working group among the remaining groups. | 45 min |
| 5. Discuss with students any questions they have about their work in small groups or answers to the review questions. | 10 min |
| 6. Ask students to summarize what they learned during the session and how it will help them recognize signs of trauma to the body. | 15 min |

02093

ANSWERS TO REVIEW QUESTIONS

Assessing a Patient Who Has Suffered Trauma

1. TRUE (T) or FALSE (F)

T A cut major artery can lead to death in a few minutes.

F Blood coming from a vein bleeds in spurts.

F Rough, irregular, and blunt objects usually make clean wounds.

F Third degree burns blister the skin.

T You must observe a patient who has suffered a head injury for at least forty-eight hours.

2. Give an example of a first degree burn and describe its effect on the skin.

Sunburn is a first degree burn. It will redden the skin.

3. Describe the effect of a third degree burn on the skin. What is a possible complication?

A third degree burn will destroy the whole thickness of the skin, exposing fat, and leaving white edges around the burn. Damage to underlying tissues, dehydration, and shock are possible complications.

4. Muscle guarding is a sign of trauma to the abdomen. Write two kinds of trauma to the abdomen that would cause muscle guarding.

Damage to abdominal organs and internal bleeding will cause muscle guarding.

5. What injury would you suspect in a person who cannot move his legs?

Damage to the low part of his spinal column.

Teaching Plan 8

Taking the Medical History and Performing a Physical Examination of a Patient Who Has Suffered Trauma to the Body

OBJECTIVES	<ol style="list-style-type: none">1. Demonstrate how to take the medical history and perform a physical examination for a patient suffering trauma.2. Demonstrate how to record the findings of this interview and physical examination.
METHODS	Self-instruction, discussion, role-play, practice interviews, and physical examination
MATERIALS	Student Text – Unit 4, case studies 87 and 88 from Student Text – Unit 5
PREPARATION	Remind the students to read the case studies in Units 5, 6 and 7 of the Student Text, and review the history and physical examination procedures discussed in Unit 4. Prepare questions and important points about history taking.

TIME: 3 hrs

LEARNING ACTIVITIES

1. Discuss with the students the importance of history taking, its use in diagnosing an immediate problem and quickly taking the necessary action to treat the problem. Emphasize the importance of stabilizing a patient's condition before taking a medical history and using the recording forms. Also stress the importance of quickly assessing a patient in an emergency and attending to those who need urgent attention.

45 min

	TIME
2. Demonstrate how to take a medical history and examine a patient with trauma to the body.	45 min
3. Students practice taking medical histories and performing physical examinations with a partner. They can use history and physical examination information from case studies 87 and 88.	1 hr
4. Briefly discuss any questions or concerns the students may have.	15 min
5. Students summarize what they learned during the session and comment on how it may be used in their work. Remind the fourth group of students about being on call at a hospital emergency room or health center this evening.	15 min

Teaching Plan 9

Diagnosing Severe Bleeding and Lacerations

OBJECTIVES	<ol style="list-style-type: none">1. Describe the signs and symptoms of bleeding and lacerations.2. Demonstrate how to interview a patient or his relative to diagnose bleeding and lacerations.
METHODS	Self-instruction, discussion, small group work, role-play
MATERIALS	Student Text - Unit 5
PREPARATION	Prepare a brief presentation on the signs and symptoms of bleeding and lacerations.

TIME: 3 hrs 15 min

LEARNING ACTIVITIES

1. Ask the students who were on call in a hospital emergency room or health center the previous evening to report on what they observed.	15 min
2. Discuss the signs and symptoms of severe bleeding and lacerations. Use the review questions to stimulate discussion.	30 min
3. Divide the class into four teams. Assign each team a different problem related to severe bleeding. First, tell the teams to choose two members to play the role of patient and health worker. Then tell the teams to use information from the text to create a presenting complaint and historical information for the patient.	5 min
4. Teams work on creating roles for a patient.	40 min

	TIME
5. Next, the health worker from one team interviews the patient from the other team, and diagnoses the emergency condition. Other students watch.	15 min
6. After the first role-play, the teams switch roles and carry out another interview.	15 min
7. Each group discusses its findings and the interview process with the class.	40 min
8. The students summarize what they have learned during the session and how it could be applied in their work.	30 min
9. Remind students to review the Student Text information on patient care and treatment for bleeding and lacerations.	5 min

REVIEW QUESTIONS

Bleeding and Lacerations

1. TRUE (T) or FALSE (F)

- T Bleeding from a large blood vessel must be stopped before giving treatment for shock.
- F Bleeding from a small blood vessel must be stopped before giving mouth-to-mouth respiration.
- F Internal bleeding is usually caused by a sharp object.
- F Spurting, bright red blood usually occurs when a vein is injured.
- T Fracture of the femur bone can lead to internal bleeding severe enough to cause shock.

2. List three signs of internal abdominal bleeding.

- a. Shock*
- b. Muscle guarding*
- c. Rebound tenderness*

3. List three ways to control bleeding.

- a. Apply direct pressure*
- b. Apply a pressure bandage*
- c. Apply a tourniquet*

4. Under what conditions would you apply a tourniquet?

When bleeding from a major artery cannot be controlled by direct pressure or by a pressure bandage and when the patient has suffered an amputation.

5. List three problems that could result from using a tourniquet.

- a. Injury to soft tissue*
- b. Loss of blood circulation to the affected arm or leg*

c. Death of tissue, requiring amputation

6. How would you apply a pressure dressing?

First, quickly collect the necessary materials that you will need. Wash your hands with soap and water. Lay the patient down. Control the bleeding with direct pressure. Pack the wound tightly with gauze. Remove your fingers or hand very gradually. Continue with the packing until the gauze is higher than the surface of the skin. Place a sterile dressing over the gauze and firmly bandage it. Make sure that the pulse distal to the wound is present and that the skin is not blue and cold.

7. Match the problems in the first column with the proper procedure in the second column.

- | | |
|--|---|
| <u>D</u> You cannot feel a pulse distal to the laceration | A. Do not close the wound |
| <u>A</u> The patient presents with a wound more than twelve hours old | B. Close the wound with a butterfly bandage |
| <u>C</u> The patient presents with a 3 cm laceration on his knee | C. Close the wound with a suture |
| <u>A</u> The patient presents with a 2 cm laceration from a dog bite | D. Refer the patient to a hospital |
| <u>B</u> The patient presents with a 1 cm clean laceration on his face | |
| <u>A</u> A child presents with a 2 cm laceration that is eighteen hours old and soiled with oil, gravel, and dirt | |
| <u>D</u> A patient who fell from his bicycle has a 3 cm laceration on his leg. He complains of pain and tenderness in his abdomen. He has a rapid and weak pulse with falling blood pressure | |

8. List four situations in which you would not close a wound.
 - a. *When major arteries, nerves, muscles or tendons are cut*
 - b. *When the lacerations are more than twelve hours old*
 - c. *When the laceration is caused by a bite*
 - d. *When the laceration is not entirely cleaned*

9. A five-year-old child cut himself with a sharp knife. The laceration is 1 cm long. The bleeding is controlled. The child cannot move the middle finger of his hand. You note slight swelling with tenderness. The child does not feel a pin prick on his finger. The laceration is eighteen hours old. How will you care for the child?
 - a. **Wound care**
Clean the wound. Remove dead tissue, if necessary. Apply a sterile dressing. Do not suture the wound or close it with adhesive tape.
 - b. **Tetanus prevention**
Find out whether the child has had a tetanus toxoid immunization. If the child has not received an immunization, give him tetanus toxoid. Give a .5 cc injection each month for two months.
 - c. **Antibiotics**
Give the child 600,000 unit penicillin IM. Follow by giving him 250 mg penicillin V tablets four times a day for ten days. Give the child erythromycin if he is allergic to penicillin.
 - d. **Referral**
Transfer the child to a hospital as soon as possible.

Teaching Plan 10

Treating and Caring for Patients with Bleeding and Lacerations

OBJECTIVES	<ol style="list-style-type: none">1. Describe the treatment and care of patients suffering from bleeding and lacerations.2. Demonstrate how to teach patients and families about preventing accidents that cause severe bleeding and lacerations.3. Demonstrate the procedures for applying a pressure dressing; using a tourniquet to control bleeding; cleaning wounds; giving a local anesthetic; removing dead tissue from a wound; suturing lacerations using a simple, interrupted stitch, and applying a triangular bandage to hold dressings to a shoulder, hip, groin, elbow, knee, hand, foot, or stump.
METHODS	Self-instruction, demonstration by instructor, group work, and discussion of presentation
MATERIALS	Student Text – Unit 5; case studies 87 and 88; materials for demonstrating and practicing procedures; Diagnostic and Patient Care Guides; and skill checklists for procedures
PREPARATION	Prepare case studies 87 and 88. Prepare materials to demonstrate procedures.

TIME: 3 hrs 35 min

LEARNING ACTIVITIES

1. Divide the class into working groups. Give each group one of the case studies from this unit.

5 min

	TIME
2. Each group identifies the condition in its case study and outlines treatment and care procedures for the condition, using Diagnostic and Patient Care Guides.	15 min
3. Two groups with different case studies present their findings and the treatment and care procedures to the rest of the class. Comment on each group's presentation.	15 min
4. Groups exchange case studies and treatment and care information. Groups then design patient or family education messages about the trauma in their case study.	15 min
5. Students deliver patient and family education messages to the group with which they exchanged case studies.	15 min
6. Discuss and demonstrate the procedures for applying a pressure dressing and for controlling severe bleeding with a tourniquet.	15 min
7. In small groups students practice applying a pressure dressing or tourniquet on one another. Students should use the skill checklists as guides.	30 min
8. Discuss and demonstrate the procedures for cleaning wounds, giving a local anesthetic, and removing dead tissue from a wound.	20 min
9. Answer any questions students may have about these procedures.	15 min
10. Discuss and demonstrate the procedure for suturing a laceration using simple, interrupted stitches.	20 min
11. In small groups students practice suturing with simple, interrupted stitches. Students can practice this procedure using a surgical glove stuffed with gauze.	40 min
12. Discuss the session's activities with students and have them summarize what they learned and how it may help them in their work. Remind the	10 min

students to read the student text information on fractures, sprains, dislocations, and burns. Also remind the fifth group of students to be on call this evening in a hospital emergency room or health center. If there is no fifth group, start over again with the first group.

Case Study 87

Name of Patient:	Sule, Ibrahim
Sex:	Male
Date of Birth:	13 June 1950
Date of Visit:	12 July 1979
Vital Signs:	Temperature 37°C Pulse 110 Respirations 25 Blood pressure 100/70 Weight 70 kg
Presenting Complaint and Medical History:	The patient was chopping meat when he cut himself with a knife on his left wrist. The injury is painful. The patient feels anxious and thirsty. He lost a lot of blood. He feels dizzy and wants to lie down.
Physical Examination:	The young man looks anxious. He is pale and has cold, clammy skin. His breathing is rapid and shallow. The cut is clean. The blood is bright red and comes out in spurts.
Diagnosis:	Severe bleeding
Patient Care:	<ol style="list-style-type: none">1. Apply direct pressure if blood is still spurting from the artery. Apply a tourniquet if direct pressure does not stop the bleeding.2. Ensure the patient is breathing.3. Apply a pressure bandage when the bleeding is controlled.4. Start treatment for shock with a normal saline IV infusion.5. Transfer the patient to a hospital.
Diagnostic Points:	<ol style="list-style-type: none">1. The patient cut himself with a knife on his left wrist2. Feelings of anxiety and thirst

3. Loss of much blood
4. Pallor with cold and clammy skin
5. Shallow and rapid breathing
6. Bright red blood coming out in spurts

Case Study 88

Sex:	Male
Date of Birth:	15 May 1950
Date of Visit:	13 December 1979
Vital Signs:	Temperature 37°C Pulse 80 Respirations 76 Blood pressure 126/80 Weight 72 kg
Presenting Complaint and Medical History:	The patient was in a motorcycle accident. The motorcycle skidded and fell on his leg. He injured the outside of his right knee. He is in pain. The outer part of his leg and foot is numb. He cannot move the foot outward. His right arm and shoulder hurt. He has not received any tetanus immunization.
Physical Examination:	The man has wounds on his right leg and forearm. The wound on his right leg is just below the knee. The wound is 4 cm by 4 cm. It has jagged edges and dirt inside. Blood oozes out. The patient has no feeling on the outer part of his right leg and foot. His ankle movement is limited. He cannot bend his foot upward. The wound on his right arm is 2 cm by

3 cm. It has jagged edges. Blood oozes out. His heart sounds are normal. His chest is clear. His abdomen is flat and tender.

Diagnosis:

Laceration of right leg with possible nerve damage, and laceration of right arm

Patient Care:

1. Ensure that the patient is breathing and that his airway is clear.
2. Since there is loss of movement of the foot, wash and scrub the wound with soap and water. Do this if there is no arterial bleeding.
3. Irrigate the wound with sterile water or salt solution.
4. Put a sterile or clean dressing over the wound and bandage.
5. Refer the patient to a hospital for treatment of the laceration and tetanus antitoxin.

Diagnostic Points:

1. History of injury to outside of right knee
2. Numbness in the outer side of right leg
3. Loss of outward movement of right foot
4. Laceration on outer side of right knee
5. Loss of sensation on outer part of right leg and foot
6. Unable to move his right foot upward
7. Laceration on right forearm

Teaching Plan 11

Diagnosing Fractures, Sprains, Dislocations, and Burns

OBJECTIVES	<ol style="list-style-type: none">1. Describe the signs and symptoms of: Fractures Sprains Dislocations First degree burns Second degree burns Third degree burns2. Demonstrate how to examine patients to diagnose fractures, sprains, dislocations, and first, second, and third degree burns.
METHODS	Self-instruction, discussion, small group work, instructor's presentation, role-play
MATERIALS	Student Text – Unit 6
PREPARATION	Prepare a brief presentation on symptoms and signs of fractures, sprains, dislocations, and first, second, and third degree burns

TIME: 3 hrs40 min

LEARNING ACTIVITIES

- | | |
|---|--------|
| 1. Ask the students who were on call at a hospital emergency room or health center the previous evening to comment on what they observed. | 15 min |
| 2. Discuss the signs and symptoms of fractures, sprains, dislocations, and first, second, and third degree burns. Use the review questions to stimulate discussion. | 1 hr |

	TIME
3. Divide the class into six teams. Assign each team one of the conditions described in Unit 6. First, tell the teams to choose two members to role-play the patient and the health worker. Then tell the teams to use information from the text to create a presenting complaint and historical information for the patient.	10 min
4. Teams work on creating roles for a patient.	30 min
5. Next, the teams pair up. The health worker from one team interviews the patient from the other team, and diagnoses the condition. Other students watch.	20 min
6. After the first role-play, the teams switch roles and carry out another interview.	20 min
7. Each group discusses its findings and interview process with the class.	45 min
8. The students summarize what they learned during the session and how it may be applied to their work.	15 min
9. Remind students to review the Student Text information on patient care for fractures, sprains, dislocations, and first, second, and third degree burns.	5 min

ANSWERS TO REVIEW QUESTIONS

Fractures, Sprains, Dislocations, and Burns

1. Match the statements in the first column with the problems listed in the second column.

<u>C</u> Snapping sound, severe pain, and deformity	A. Sprain
<u>B</u> Abnormal position of a joint and loss of function of that joint	B. Dislocation
<u>A</u> Caused by stretching or tearing of a ligament or tendon	C. Fracture
<u>A</u> Raise the arm or leg and apply ice packs	
<u>C</u> Splint the joints on both sides of the injured site	

2. TRUE (T) or FALSE (F)

<u>F</u> A broken bone is called a dislocation.	
<u>F</u> A simple fracture is one in which the bone breaks through the skin.	
<u>T</u> Sprains occur when joint ligaments are stretched.	
<u>F</u> Bleeding does not occur in severe sprains.	
<u>F</u> Displacement of the ends of a bone from a joint socket is called a fracture.	
<u>T</u> Shoulder dislocations often recur.	
<u>T</u> Do not clean or wash a compound fracture. Do not replace the protruding bone.	
<u>F</u> You may move a patient with a fracture before splinting his broken bone.	

3. A man with a fractured humerus is brought to you. The broken end of the bone sticks through his skin. He was in an auto accident. How will you care for the patient?

- a. Make sure his airway is clear and he is breathing.*
- b. Control any bleeding.*
- c. Cover the wound and bone with a clean dressing.*
- d. Start treatment for shock if signs of shock are apparent.*
- e. Assess the patient for signs of other injuries.*
- f. Splint the fractured limb.*
- g. Transport the patient to a hospital as soon as possible.*
- h. Monitor his vital signs regularly.*

4. A patient tells you that he fell down while riding his bicycle. He heard a snapping sound in his upper arm. What signs will you look for to diagnose the problem?

Look for a deformity. Note whether the patient uses his arm. Note whether he feels pain when he moves his arm.

5. TRUE (T) or FALSE (F)

T Two factors determine the seriousness of burns. These are depth of the skin burned and the extent of the burn.

6. List the degrees of a burn and briefly describe them.

<i>First degree</i>	<i>Red skin</i>
<i>Second degree</i>	<i>Red skin with blistering</i>
<i>Third degree</i>	<i>All layers of the skin destroyed, white or charred skin, and exposed fat</i>

7. List three reasons you would refer a patient with burns to a hospital.

- a. Refer an adult with second or third degree burns on more than ten percent of his body or a child with burns on more than five percent of his body.*
- b. Refer any patient with third degree burns on his face, hands, feet, genitals, or across any joint.*
- c. Refer any patient who has inhaled hot gas or smoke.*

8. A five-year-old child has been burned with boiling water on the front of his chest, his abdomen, and the front of his upper arm. He weighs 18 kg.

- a. What percentage of his skin is burned?

Front chest = 9%

Front abdomen = 9%

Front upper arm = 2%

Total = 20% body burns

- b. How will you treat the child for these second degree burns?

Fluids: Begin IV fluids

$18 \times 20\% = 360 \text{ cc} + 250 \text{ cc in the first eight hours} = 610 \text{ cc}$

Wound care: Clean and protect from flies and dirt. Do not puncture blisters or dress the burn

Analgesics: Give as necessary by calculating the proper dosage. For severe pain you may give pethidine.

Antibiotics: Give 400,000 cc procaine penicillin IM

Tetanus prevention: Assess immunization status and give tetanus toxoid if necessary

Referral: Transfer to a hospital immediately.

9. A forty-year-old man who was caught in a house fire is brought to your clinic. The front of both his legs from the knees down are red and blistered. The tops of both his hands and his back from his neck to his waist are burned in the same way. The man weighs 70 kg.

- a. What is the degree of these burns?

Second degree

- b. What percent of the man's skin is burned?

Both front legs below the knees: $4.5 \times 2 = 9\%$

Top of both hands = 1%

Back from neck to waist = $9\% + 4.5\% = 13.5\%$

Total = $9 + 1 + 13.5 = 23.5\%$

c. How would you treat this patient?

Fluids: *Start IV with 2,145 cc of Ringer's lactate or normal saline.*
 $70 \times 23.5 = 1,645 \text{ cc} + 500 \text{ cc} = 2,145 \text{ cc}$

Wound care: *Clean the burn and protect it from flies and dirt.*
Do not puncture blisters or dress the burn.

Analgesics: *Give 250 mg aspirin four times a day or pethidine if necessary*

Antibiotics: *Give 400,000 cc procaine penicillin IM*

Tetanus prevention: *Give tetanus antitoxin or toxoid if necessary*

Referral: *Refer to hospital immediately*

10. Why does an adult with second degree burns on more than fifteen percent of his body enter shock?

Because body fluids ooze from the burn, reducing his blood volume.

11. A child who fell into an open fire has burned his buttocks, the back of his thighs, and his back to his neck. How will you know what degree of burn the child has suffered?

Examine the burn to find the degree of damage. A second degree burn will have blisters through two layers of skin. A third degree burn will look charred, and all layers of skin will be burned through.

Teaching Plan 12

Treating and Caring for Patients with Fractures, Sprains, Dislocations, or Burns

OBJECTIVES	<ol style="list-style-type: none">1. Describe the treatment and care of patients suffering from fractures, sprains, dislocations, and burns.2. Demonstrate how to teach patients and their families about the home care and prevention of fractures, sprains, dislocations, and burns.3. Demonstrate how to splint fractures, reduce a dislocated shoulder, and bandage a sprained joint.
METHODS	Self-instruction, demonstration, group work, presentations, discussions, and practice
MATERIALS	Student Text – Unit 6; case studies; materials for splinting fractures, reducing a dislocated shoulder, and bandaging a sprained joint; Diagnostic and Patient Care Guides; skill checklists
PREPARATION	Prepare case studies 89–92. Prepare materials for the demonstration of splinting, reducing a dislocated shoulder, and bandaging a sprained joint.

TIME: 6 hrs

LEARNING ACTIVITIES

1. Divide the class into working groups. Distribute a different case study to each group.	10 min
2. Each group identifies the condition in its case study and outlines treatment and care procedures for the condition, using the Diagnostic and Patient Care Guides.	20 min

	TIME
3. Each group presents its case study findings and the treatment and care procedures to the rest of the class. Comment with students on each group's presentation.	30 min
4. Groups exchange case studies and treatment and care information. Groups then design patient and family education messages about the condition in their case study.	15 min
5. Students deliver patient and family education messages to the group with which they exchanged case studies.	15 min
6. Discuss and demonstrate how to use a triangular bandage as an arm sling, and apply a triangular bandage to hold dressings to a shoulder, hip, groin, elbow, knee, hand, foot, or stump.	15 min
7. In small groups, students practice using a triangular bandage as an arm sling and applying a triangular bandage to hold dressings to a shoulder, hip, groin, elbow, knee, hand, foot, or stump. Students should use skill checklists as a guide to practice on one another or a patient.	30 min
8. Discuss and demonstrate how to splint fractures.	15 min
9. Discuss and demonstrate the procedure for splinting a fractured upper arm, forearm, wrist, shoulder blade, and collar bone.	15 min
10. In small groups, students practice the procedures for splinting a fractured upper arm, forearm, wrist, shoulder blade, and collar bone. Students should use skill checklists as a guide to practice on one another or a patient.	45 min
11. Discuss and demonstrate procedures for splinting a fractured upper leg, lower leg, kneecap, ankle, or foot.	15 min
12. In small groups, students practice the procedures for splinting a fractured upper leg, lower leg, kneecap, ankle, or foot. Students should use skill	45 min

		TIME
checklists as a guide to practice on one another or a patient.		
13.	Discuss and demonstrate the procedure of reducing a dislocated shoulder.	10 min
14.	In small groups, students practice the procedures for reducing a dislocated shoulder. Students should use the skill checklist as a guide to practice on one another.	30 min
15.	Discuss and demonstrate the procedure for bandaging a sprained joint.	10 min
16.	In small groups, students practice bandaging a sprained joint. They should use their skill checklist as a guide to practice on one another or a patient.	20 min
17.	Discuss with the students the session's activities and then have them summarize what they learned and how it may help them in their work. Remind the students to read the Student Text information on diagnosing trauma to the eye, head, neck, chest, and abdomen.	20 min

Case Study 89

Name of Patient: Coley, John
Sex: Male
Date of Birth: 4 April 1954
Date of Visit: 30 April 1980
Vital Signs: Temperature 37°C
Pulse 120
Respirations 28
Blood pressure 90/60
Weight 65 kg

Presenting Complaint and Medical History: The patient complains of pain in his left thigh. He cannot move the leg. He says he was riding a bicycle to his office when he hit a rock on the road and fell. He heard a snapping sound and felt severe pain. He could not move because of the pain. His thigh began to swell. He has never hurt that leg before.

Physical Examination: The man is in severe pain. He does not move or allow himself to be moved. He does not allow anyone to touch his leg. His breathing is rapid and shallow. His lips are dry. His skin is cold and clammy. His left thigh is bent and crooked. No wound is visible on the skin. The skin of the left thigh is hot and tender. The left leg is shorter than the right. His heart sounds are normal. His chest is clear. His abdomen is flat and non-tender.

Diagnosis: Fracture of the left femur with shock

Patient Care:

1. Ensure that the patient is breathing.
2. Start treatment for shock with a normal saline IV infusion.
3. Splint the left leg.
4. Transfer the patient to a hospital.

Diagnostic
Points:

1. History of falling on the left leg
2. Patient heard a snapping sound
3. Patient experienced severe pain
4. Unable to move limb
5. Patient noticed change in the shape of the left thigh
6. Shallow and rapid breathing
7. Pulse is rapid
8. Skin is cold and clammy and lips dry
9. Deformity of the left thigh
10. Left leg shorter than right leg
11. Area of the thigh is hot and tender

Case Study 90

Name of Patient: Das, Jayshree

Sex: Female

Date of Birth: 12 June 1964

Date of Visit: 13 May 1980

Vital Signs:

Temperature	37.2° C
Pulse	80
Respirations	14
Blood pressure	110/70
Weight	40 kg

Presenting Complaint and Medical History: The patient complains of severe pain in her left ankle. She was climbing stairs when she slipped and twisted her left foot. The twist was painful. The

accident happened about four hours ago. The patient says she cannot put any weight on that foot. She has never suffered any injury to that foot before.

Physical
Examination:

The patient does not put her foot down on the floor. Her left ankle is swollen, hot, and tender. She cannot move it. Her skin is black-and-blue at the ankle. She has no sign of any other injury. Her chest is clear. Her heart sounds are normal. Her abdomen is non-tender and flat. No organs are palpable.

Diagnosis:

Sprain and possible fracture of left ankle

Patient Care:

1. Ensure that there is no other injury.
2. Apply ice packs to the left ankle.
3. Elevate the left leg for twenty-four hours. Do not put any weight on the joint.
4. After thirty-six hours, apply heat to hasten healing.
5. Bandage the ankle.
6. If the sprain is very severe or you suspect a fracture, refer to hospital for X-ray and treatment.

Diagnostic
Points:

1. Twisting of the left ankle
2. Severe pain with limited movement
3. Swollen, hot, and tender ankle
4. Skin over the sprained ankle is black-and-blue

Case Study 91

Name of Patient: Adamu, Phillip
Sex: Male
Date of Birth: 3 January 1952
Date of Visit: 13 December 1981

Vital Signs: Temperature 37° C
 Pulse 78
 Respiration 13
 Blood pressure 120/80
 Weight 65 kg

Presenting Complaint and Medical History: The patient has pain in his right shoulder. He says that he cannot move his arm. He stumbled when he was carrying a bucket of water. The bucket jerked his right arm. He felt a sharp pain in the right shoulder. He dropped the bucket and found that he could not move his arm.

Past medical history: The patient has had this problem before. It happens whenever his right arm is suddenly jerked or pulled.

Physical Examination: The patient is in pain. He holds his right arm at the elbow. The right shoulder looks flat compared to the left shoulder. The patient cannot place his right hand on his left shoulder. His right shoulder is swollen and tender. No other injuries are apparent. His chest is clear. His heart sounds are normal. His abdomen is non-tender and flat.

Diagnosis: Recurrent dislocation of the right shoulder

Patient Care: 1. Ensure that there is no injury to any other part of the body.
 2. Use the gravity method to reduce the dislocation.

3. If not successful, use the traction method.
4. Put the arm in a sling and refer the patient to a hospital.
5. Give 600 mg aspirin every four hours.

Diagnostic
Points:

1. Sudden jerking of the right arm
2. Past history of similar pain following jerking of arm
3. Inability to move the shoulder
4. Deformity of right shoulder as compared to the left side
5. Limitation of movement of the joint
6. Tenderness of the joint

Case Study 92

Name of Patient: McMann, Joanna

Sex: Female

Date of Birth: 19 June 1976

Date of Visit: 13 August 1981

Vital Signs:

Temperature	37° C
Pulse	130
Respirations	28
Weight	14 kg

Presenting Complaint and Medical History: The child was playing near a stove about two hours ago when boiling rice spilled on her. She has blisters across her chest, abdomen, and the front of her legs up to her knees. She is in pain and she feels thirsty.

Physical Examination:	The patient is a small, frail girl. She looks anxious and pale. Large blisters cover her chest, abdomen, and legs. Some blisters have burst. A watery fluid oozes out. The epidermis is broken in many places. The patient's hands and feet are cold. She is sweating. Her respirations are rapid and she is drowsy.
Diagnosis:	Second degree burn with shock
Patient Care:	<ol style="list-style-type: none">1. Ensure that the patient's airway is clear and that she is breathing.2. Start treatment for shock with a normal saline IV infusion.3. Assess the extent of the burn and then calculate the amount of fluid required for the first eight hours.4. Cover the burn with clean and sterile dressings.5. Give the patient 300 mg of aspirin every four hours to relieve the pain.6. Refer the patient to the hospital as soon as possible.
Diagnostic Points:	<ol style="list-style-type: none">1. Blister over the chest and legs2. Spilling of boiling rice3. Child has a lot of pain4. Patient anxious, pale and restless5. Blisters with oozing of watery fluid6. The epidermis in many places is broken7. Child has cold hands and feet8. The child is sweating9. Rapid respiration10. The child is drowsy

Teaching Plan 13

Diagnosing Trauma to the Eye, Head, Spinal Column, Chest, and Abdomen

- OBJECTIVES**
1. Describe the signs and symptoms of trauma to the:
Eye
Head
Spinal column
Chest
Abdomen
 2. Demonstrate how to interview a patient or his relative and diagnose trauma to eye, head, spinal column, chest, and abdomen.

METHODS Self-instruction, discussion, small group work, instructor presentation, role-play

MATERIALS Student Text – Unit 7

PREPARATION Prepare a brief presentation on the symptoms and signs of trauma to the eye, head, spinal column, chest, and abdomen

TIME: 3 hrs 25 min

LEARNING ACTIVITIES

- | | |
|--|--------|
| 1. Discuss the signs and symptoms of trauma to the eye, head, spinal column, chest, and abdomen. | 1 hr |
| 2. Divide the class into five teams. Assign each team one of the conditions described in Unit 7. First, tell these teams to choose two members to role-play the patient and the health worker. Then tell the teams to use information from the text to create a presenting complaint and historical information for the patient. | 10 min |

	TIME
3. Teams work on creating roles for a patient.	30 min
4. Next, the teams pair up. The health worker from one team interviews the patient from the other team and diagnoses the condition. Other students watch.	20 min
5. After the first role-play, the teams switch roles and carry out another interview.	20 min
6. Each group discusses its findings and the interview process with the class.	45 min
7. The students summarize what they learned during the session and how it may be applied in their work.	15 min
8. Remind students to review the Student Text information on patient care for trauma to the eye, head, spinal column, chest, and abdomen. Remind the next group of students to be on call in a hospital emergency room or health center this evening.	5 min

ANSWERS TO REVIEW QUESTIONS

Trauma to the Eye, Head, Spinal Column, Chest, and Abdomen

1. You see a patient with an injury to his eye. You notice that the cornea is cut and the iris is exposed. What should you do?

Cover both eyes with a clean dressing. Lay the patient flat. Rapidly transfer him to the hospital. Give him aspirin for the pain.

2. What would you do for a patient who reports to you that he spilled some detergent into his right eye?

Wash the eye with clean water for five to ten minutes. Cover both eyes with a clean dressing. Give aspirin for the pain. Transfer the patient rapidly to a hospital.

3. List seven signs of a serious head injury.

- a. unconsciousness*
- b. deformity of the skull*
- c. convulsions or tremors*
- d. weakness of the muscles on one side of the body*
- e. dilated pupils, or pupils of unequal size*
- f. pupils may not respond to light*
- g. clear, watery fluid or blood-tinged fluid coming from ears and nose*

4. TRUE (T) or FALSE (F)

- T A clear, watery fluid or blood-tinged fluid from the ear or nose is a sign of a fracture at the base of the skull.
- F Widely dilated pupils are not signs of serious brain damage.
- T A patient with a damaged spinal cord feels numb below the injury.

- F You may move a patient with a fractured neck or spinal column with no danger.
- T A crushed chest collapses on breathing in and expands on breathing out.
- F You should not cover a sucking chest wound immediately.
- F A blunt trauma to the abdomen is no cause for concern.
- F Only a penetrating wound of the abdomen can cause internal bleeding.
- F You should push protruding intestines and abdominal organs back into the abdominal cavity when you treat a patient with an abdominal injury.
- F You should treat a major trauma before clearing the patient's airway and controlling any bleeding.
5. List three ways you can recognize an injury to the spinal column.
- Abnormal position of the neck or trunk*
 - Loss of muscle power in the limbs below the site of the wound*
 - Loss of sensation in parts of the body below the injury.*
6. Match the signs in the first column with the problems in the second.
- | | |
|---|-----------------------------------|
| <u>C</u> An open wound sucks air with each breath | A. Internal bleeding into abdomen |
| <u>G</u> Blood fills the chest cavity. | B. Crushed chest |
| <u>A</u> Muscle guarding and tenderness of abdominal wall | C. Sucking chest wound |
| <u>E</u> Pain with shallow or deep breathing | D. Any fluid or food by mouth |
| <u>F</u> Coughing up blood | E. Rib fractures |
| <u>B</u> Chest expands on breathing out and collapses on breathing in | F. Damage to the lungs |
| <u>D</u> In a penetrating injury of the abdomen do not give | G. Leads to collapse of lung |

7. The following steps are used for transporting a patient with a fractured spine to the hospital. Number them in the order you would do them.
- 6 Lift the patient onto the stretcher, supporting his neck, the curve of his back and his knees with pads.
 - 5 Place the blanket under the patient.
 - 2 Tie the feet and ankles together with a figure-of-eight bandage.
 - 4 Find a wooden door, board, or stretcher you can use to carry the patient.
 - 3 Tie his knees and thighs together with wide bandages.
 - 7 Block his head with a pillow on either side so that the head will not move.
 - 1 Hold the patient's shoulders and hips firmly while you place pads between his thighs, knees, and ankles.
 - 8 Transport the patient as gently as possible to the hospital.
8. List four signs of a ruptured abdominal organ
- a Pain over the affected organ with history of trauma*
 - b Guarding and rigidity of abdomen*
 - c Shock*
 - d Rebound tenderness*

Teaching Plan 14

Treating and Caring for Patients with Trauma to the Eye, Head, Spinal Column, Chest, or Abdomen

OBJECTIVES	<ol style="list-style-type: none">1. Describe the treatment and care of patients suffering from trauma to the eye, head, spinal column, chest, or abdomen.2. Demonstrate how to teach patients and their families how to care for an injured patient when he returns home, and how to prevent accidents from happening.3. Demonstrate how to place a patient with a possible fracture of the spinal column on a stretcher or blanket.
METHODS	Self-instruction, demonstration by an instructor, group work, presentations, discussions, and practice
MATERIALS	Student Text – Unit 7; case studies of trauma to head, spinal column, chest, and abdomen; materials for moving an injured patient; Diagnostic and Patient Care Guides; skill checklists for moving an injured patient
PREPARATION	Prepare case studies 93–97. Prepare materials for moving an injured patient.
TIME: 3 hrs 35 min	
LEARNING ACTIVITIES	
<ol style="list-style-type: none">1. Ask the group of students who were on call at a hospital emergency room to comment on what they observed.	15 min

	TIME
2. Divide the class into working groups. Distribute a different case study to each group.	5 min
3. Each group identifies the condition in its case study and outlines the treatment and care procedures. Students may use Diagnostic and Patient Care Guides.	20 min
4. Each group presents its case study findings and the treatment and care procedures to the rest of the class. Comment with students on each group's presentation.	20 min
5. Groups exchange case studies and treatment and care information. Groups then design patient and family education messages about the condition in their case study.	20 min
6. Students deliver patient and family education messages to the group with which they exchanged case studies.	20 min
7. Discuss and demonstrate how to place a patient with a fractured spinal column on a blanket or a stretcher.	25 min
8. In groups of six, students practice placing an injured patient on a stretcher and a blanket.	1 hr
9. Discuss with the students the session's activities and have them summarize what they learned and how it may help them in their work. Remind the students to read the Student Text information on sharing health messages on how to prevent and care for emergency and trauma.	30 min

Case Study 93

Name of Patient:	Koll, Mary	
Sex:	Female	
Date of Birth:	11 May 1950	
Date of Visit:	13 July 1979	
Vital Signs:	Temperature	38° C
	Pulse	68
	Respirations	12
	Blood pressure	100/76
	Weight	60 kg
Presenting Complaint and Medical History:	<p>The patient is brought in unconscious from a motorcycle accident. The patient was conscious for a few minutes after the accident but then lost consciousness. She vomited while she was being brought to the health center. A relative tells you that the patient's left arm was twitching, and that she lost much blood from a wound on the right side of her head. The patient has not regained consciousness.</p>	
Physical Examination:	<p>The patient will not wake up even with strong pain. Her respirations are slow and labored. The pupil of her right eye is dilated. She does not react to light. The pupil on the left side is not dilated but responds weakly to light. She has a bleeding laceration of the scalp on the right side of the head. The skull below the laceration is depressed. A pink, blood-tinged discharge comes from the right ear and nostril. Her heart sounds are normal. Her chest is clear. Her abdomen is flat. No signs of damage to the spinal column are detected.</p>	
Diagnosis:	<p>Trauma to the head with a fracture of the skull and the base of the skull, laceration of the scalp, and unconsciousness</p>	

Patient Care:

1. Ensure that the airway is clear and that the patient is breathing.
2. Treat the patient for shock. Use a normal saline IV infusion.
3. Clean and dress the scalp laceration.
4. Give 1,000,000 units aqueous penicillin IV.
5. Transfer the patient to a hospital as rapidly as possible.

Diagnostic Points:

1. History of motorcycle accident
2. Patient conscious after accident then became unconscious
3. Patient vomited while unconscious
4. There was twitching of left arm
5. Bleeding from wound on right side of head
6. Does not respond to strong pain
7. Pupil of right eye dilated, non-reacting
8. Pupil of left eye not dilated, reacts weakly to light
9. Depression in the skull at site of laceration
10. Bloody discharge from ear and nostril seen

Case Study 94

Name of Patient: Murray, Fred
Sex: Male
Date of Birth: 16 May 1950
Date of Visit: 17 March 1981

Vital Signs: Temperature 37° C
 Pulse 86
 Respirations 14
 Blood pressure 100/80
 Weight 80 kg

Presenting Complaint and Medical History: The patient fell from a coconut tree. He is unable to move. His neck is in an abnormal position. He has severe pain in his neck. His body below his neck is numb. The patient has not lost consciousness. He did not vomit.

Physical Examination: The patient is in severe pain. The neck is bent in an abnormal position. The patient's breathing is slow. His muscle tone is reduced. His heart sounds are normal. His chest is clear. His abdomen is flat and non-tender.

Diagnosis: Trauma to the neck with damage to the spinal cord

Patient Care: 1. Reassure the patient.
 2. Prepare to move the patient according to procedures for moving a patient with trauma to his spinal column. Transfer him as gently and as quickly as possible to a hospital.

Diagnostic Points: 1. History of fall from a height
 2. Patient cannot move any of his limbs
 3. Severe pain in the neck
 4. Numbness in the body below the neck
 5. Neck bent in an abnormal position
 6. Reduction of muscle tone
 7. No sensation in the limbs

Case Study 95

Name of Patient: Mansfield, George

Sex: Male

Date of Birth: 16 August 1948

Date of Visit: 19 July 1980

Vital Signs: Temperature 37° C
 Pulse 110
 Respirations 28
 Blood pressure 110/80
 Weight 65 kg

Presenting Complaint and Medical History: The patient is bleeding from the right side of his chest. He is in pain. He has trouble breathing. The pain in the chest increases when he takes a deep breath or coughs. He coughs up blood in his sputum. The patient scuffled with a friend. In the scuffle, the patient was stabbed in the chest. He lost about three cups of blood.

Physical Examination: The patient, a healthy-looking man, is in severe pain. He has trouble breathing. His lips and nail beds are blue. His breathing is rapid and shallow. His skin is cold and clammy. The wound is 1 cm by 1 cm. Frothy bubbles come from the wound when the patient breathes out. He sucks air in through the wound when he breathes. The area around the wound is tender. Breath sounds on the right side are decreased. His heart sounds are normal. His abdomen is flat and non-tender.

Diagnosis: Penetrating wound of the chest and shock

Patient Care:

1. Cover the open wound immediately with a hand or clean and sterile dressing.
2. Ensure that the airway is clear.
3. Start treatment for shock with normal saline IV infusion.

4. Transfer the patient as rapidly as possible to the hospital

Diagnostic
Points:

1. History of stabbing with knife
2. Pain in chest with difficulty in breathing
3. Pain increased when patient coughed
4. Blood in sputum seen
5. Breathing rapid and shallow
6. Cyanosis present
7. Skin is cold and clammy
8. Frothy bubbles seen at site of wound when patient breathes out
9. Sucking sound at site of wound when patient breathes in
10. Decreased breath sounds on the right side

Case Study 96

Name of Patient: Smith, Lois
Sex: Female
Date of Birth: 7 November 1950
Date of Visit: 21 August 1980
Vital Signs: Temperature 37°C
Pulse 126
Respirations 26
Blood pressure 80/56
Weight 55 kg

Presenting Complaint and Medical History:	<p>The patient has severe pain in her abdomen and she is vomiting. The patient and her husband quarreled. Her husband hit her in the abdomen with his fist about three hours ago. The patient feels severe pain. The pain has increased. The patient is very thirsty. She feels dizzy when she stands. She does not allow anyone to touch her abdomen. No blood is in her vomit.</p>
Physical Examination:	<p>The patient is an anxious woman who lies very still. Her respirations are rapid and shallow. Her skin is cold and clammy. She has tenderness at the left upper abdominal area just below the ribs. She has no bruise but shows muscle guarding. Bowel sounds are present. Her chest is clear. Her heart sounds are normal.</p>
Diagnosis:	<p>Blunt trauma to the abdomen, possible internal bleeding, and shock</p>
Patient Care:	<ol style="list-style-type: none">1. Ensure airway is clear and patient is breathing.2. Treat for shock with normal saline IV infusion.3. Reassure the patient.4. Transfer the patient as rapidly as possible to the hospital.
Diagnostic Points:	<ol style="list-style-type: none">1. History of blunt trauma to abdomen2. Severe abdominal pain with vomiting3. Patient feels thirsty and dizzy4. Patient will not allow anyone to touch her abdomen5. Shallow and rapid breathing6. Skin is cold and clammy7. Tenderness present in left upper abdominal area just below the ribs8. Muscle guarding present9. Blood pressure of 80/56

Case Study 97

Name of Patient: Mill, John
Sex: Male
Date of Birth: 1 March 1952
Date of Visit: 19 December 1978
Vital Signs: Temperature 39° C
Pulse 110
Respirations 22
Blood pressure 110/80
Weight 75 kg

Presenting Complaint and Medical History: The patient has been injured in a knife fight. He has severe pain in his abdomen. He has vomited. The fight occurred about eight hours ago. Protruding organs were pushed back into the abdomen. The patient has lost about three cups of blood.

Physical Examination: The patient looks anxious and drowsy. He is not moving at all. His respirations are shallow and rapid. His skin is cold and clammy. The wound is tender. He shows muscle guarding and rebound tenderness. His bowel sounds are absent. His chest is clear. His heart sounds are normal.

Diagnosis: Penetrating wound of the abdomen with peritonitis

Patient Care:

1. Ensure that the patient's airway is clear.
2. Start treatment for shock with a normal saline IV infusion.
3. Give the patient 1,000,000 units aqueous penicillin IV and .5 g streptomycin IM.
4. Give 100 mg pethidine IM if the transfer to hospital will take more than four hours.
5. Rapidly transfer the patient to a hospital.

Diagnostic
Points:

1. History of injury to the abdomen with a knife
2. Severe pain in the abdomen
3. Protruding organs were pushed back into the abdomen
4. Loss of blood
5. Patient is lying still and not moving at all
6. Shallow and rapid breathing.
7. The skin is cold and clammy
8. There is muscle guarding and rebound tenderness
9. Bowel sounds are absent

Teaching Plan 15

Sharing Ideas with Patients and a Community on the Prevention of Accidents

OBJECTIVES	<ol style="list-style-type: none">1. Identify safety messages that may be shared with patients, their families, or other community members.2. Develop safety messages into simple terms that patients, their families, and other community members can understand.3. Describe how the health worker could use these messages in his daily activities.4. Develop lesson plans for elementary school teachers on how to prevent common emergencies and trauma.5. Share health messages with patients and other groups of people.
METHODS	Self-instruction, discussion, role-play, group activity, student presentations, and instructor presentations
MATERIAL	Student Text – Unit 8
PREPARATION	Remind students to review Unit 8. Prepare a brief presentation on how to prepare a lesson plan.

TIME: 3 hrs 10 min

LEARNING ACTIVITIES

1. Discuss with students the use of health messages in helping people prevent and care for emergency and trauma problems. Ask students for examples of possible health messages.

15 min

TIME

- | | TIME |
|--|-------------|
| 2. Briefly present ways to develop a lesson plan on trauma and emergency problems. Discuss how to share that plan with a school teacher. | 15 min |
| 3. Divide the class into working groups. Assign each group one common problem related to emergencies or trauma. Each group:
Identifies the most common cause of the problem assigned to them
Identifies the health messages related to the prevention of the problem
Develops the health messages into simple language that can be easily understood
Designs a lesson plan on the subject of the assigned problem, using the outline in the student text. Includes in the design the cause of the problem and the health messages related to the problem
Prepares a brief ten-minute presentation of the lesson plan, which is to be presented to the whole class | 1 hr 30 min |
| 4. Groups give their presentations. A brief discussion follows each presentation. | 1 hr |
| 5. Students summarize what they have learned during the session and discuss how they can ask school teachers to use accident prevention lesson plans in their classes. Remind the next group of students about being on call in a hospital emergency room or health center this evening. | 10 min |

ANSWERS TO REVIEW QUESTIONS

Sharing Ideas with Patients and a Community on the Prevention of Accidents

1. What are some of the common traumas and emergencies that occur in a community?

- a. Lacerations*
- b. Burns*
- c. Poisoning*
- d. Fractures*

2. What age group is most often affected by accidents? Why? Give an example.

Children are most commonly affected by emergencies and trauma. Children are curious. Negligence on the part of adults and parents results in a dangerous environment. This environment then leads to many accidents that involve children. For example, improper storage of poisons can lead to accidental poisoning of children.

3. List some kinds of dangerous living and work areas.

- a. High places from which children can fall*
- b. Lakes or pools in which children or adults can drown*
- c. Villages near a busy highway*
- d. Areas near an explosive or chemical factory*

4. How will teaching school children about how to prevent accidents affect others?

Education of the school children will make the children aware of dangerous situations. It will also help them to know what to do when an accident happens so that prompt attention is given. The children will learn the health messages and then prepare and take them home to share with their parents and families. In this way, the health message developed in the school can be shared with the community.

Teaching Plan 16

Assessing and Caring for Patients in Trauma and Emergencies; Skill Development

- OBJECTIVES**
1. Interview and examine patients with life-threatening medical emergencies and traumas.
 2. Provide care for patients in life-threatening medical emergencies and traumas.
 3. Share health messages with patients and their families about the prevention and care of trauma and emergency problems.

METHODS Supervised clinical practice

MATERIALS Diagnostic and Patient Care Guides, skill checklists, clinical performance records

PREPARATION Arrange supervision for three-and-a-half days of clinical practice in a hospital emergency room or health center. Remind students to review their skill checklists for procedures in handling traumas and emergencies.

In addition to assessing and caring for traumas and emergencies during this clinical practice, students should practice Patient Care Procedures for trauma and emergencies with one another. Supervisors may evaluate their performance during this practice.

TIME: 3½ days

LEARNING ACTIVITIES

1. Divide the class into three groups. Explain to these groups that they will have three and one half days to practice:

Interviewing and examining patients with
life-threatening traumas and emergencies

Providing patient care for trauma and
emergency patients

Sharing health messages with patients and
their families about the prevention and care
of traumas and emergencies

- 2. Remind students to practice Patient Care
Procedures with one another. Supervisors may
evaluate their performance during this time.

Teaching Plan 17

Caring for Patients in Trauma and Emergencies; Clinical Rotation

OBJECTIVES	<ol style="list-style-type: none">1. Diagnose all the trauma and emergency problems described in this module.2. Demonstrate an ability to decide when to give emergency treatment to a patient.3. Provide patient care, using the treatment described in this module.4. Advise patients and their families about the care and prevention of trauma and emergency problems.
METHODS	Supervised clinical practice for one week
MATERIALS	Skill checklists, evaluation records, and Diagnostic and Patient Care Guides
PREPARATION	See Student Text – Unit 9 for entry level skills and knowledge. Be sure to arrange for supervision during this activity.

TIME: 1 week

LEARNING ACTIVITIES:

1. Students obtain medical histories and perform physical examinations.
2. Students diagnose trauma and emergency problems.
3. Students provide treatment and care to patients with trauma or emergency problems.
4. Students present health messages to patients and their families.
5. Supervisors evaluate each student on all the above activities.

Teaching Plan 18

Helping a Community Prevent and Care for Traumas and Emergencies; Community Phase

OBJECTIVES	<ol style="list-style-type: none">1. Provide clinical services to people who suffer from trauma and emergency problems.2. Identify common trauma and emergency problems and plan a program to prevent them from occurring, or when they occur, to prevent a delay in getting treatment for the patient.3. Advise a community about its role in preventing trauma and emergency problems, and create an awareness of the importance of early treatment.4. Identify other members of the health team or community who can assist in prevention.
METHODS	Three months of practice in providing patient care, assessing the community, and training community health workers and school teacher
MATERIALS	Logbook, reference materials
PREPARATION	See the Student Guide for Unit 10 for details of entry level skills and knowledge. See the Community Phase Manual for details on organization and supervision of community practice.

TIME: 3 months

LEARNING ACTIVITIES

1. Students provide clinical services for trauma and emergency problems.
2. Students assess the number of trauma and emergency problems found in the community. They record their findings in a written report.

TIME

3. Students plan activities that will help a community reduce the occurrence of trauma and emergency problems.
4. Students begin training a community health worker to help prevent and care for trauma and emergency problems.
5. Supervisor evaluates student performance in the community.

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